RURAL PANDEMIC
THE NEXT WAVE?

VACCINE DRIVE
WAR OF NUMBERS

FALTERING MSMEs
COLLATERAL DAMAGE

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INDIA TODAY

BREATHLESS

AN INVESTIGATION INTO WHY INDIA FACES A CRIPPLING SHORTAGE OF MEDICAL OXYGEN NEEDED TO TREAT COVID PATIENTS, WHO IS TO BLAME AND HOW TO REMEDY THE SITUATION

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FROM THE
EDITOR-IN-CHIEF

The darkest tale of a victory declared prematurely comes from Greek mythology. At the end of the Trojan War, the attacking Greeks abandoned a 10-year-long siege of the city-state of Troy and sailed away, leaving behind a giant wooden horse. The relieved defenders, falsely believing they had won, carted the horse inside the city. As the Trojans slept, Greek warriors slipped out of their hideout within the horse and opened the city's gates to its destruction.

It could well be a metaphor for where India was at the beginning of this year. As the first wave receded in February, we believed Covid had left for good and resumed our daily life, shedding masks and the social distancing protocols doctors and scientists had mandated, oblivious to the prospect of a second wave darkening the horizon. In January this year, the government all but declared victory. Our vaccination programme went awry with the government's misplaced priorities.

INDIA TODAY
HOW TO PREVENT A BREAKDOWN
WITH BOTH LIVES AND THE ECONOMY IN DANGER, IT'S A TWO-FRONT WAR AGAINST THE CORONA PANDEMIC. WHAT INDIA MUST DO

April 13, 2020

INDIA TODAY
HAVE WE KNOCKED OUT COVID?

March 1, 2021

Then, without any warning, the second wave hit. Its defining feature has been its speed, ferocity and new mutant strains that we have yet to understand fully. What we do know, however, is that, like the mythical Trojans, we let our guard down. And we are paying a heavy price for it. India has been setting new records of daily Covid cases every day of the past fortnight—on April 26, it recorded a stupendous 350,000 new cases. Our peak in the first wave last year was 97,894 new cases on September 16.

With over 200,000 people dead, India is now the world's second most affected country after the United States. The new wave may be raging in 12 states, including the National Capital Region, Uttar Pradesh and Maharashtra, but is fast radiating outwards. Tragically, Delhi, the national capital, is the epicentre of this second wave, recording 24,149 new cases and 381 deaths on April 27, with heart-rending visuals of despair and bereavement all around. Mumbai has registered a dip in daily cases, though we cannot be sure if this results from a drop in testing. Clearly, our healthcare system is overwhelmed.

The new strains of the virus in the second wave have attacked our lungs with greater speed and ferocity. As our experience in the first wave taught us, oxygen was the key to saving lives. Tragically, however, these lessons were quickly forgotten by the state and central governments. When the first wave subsided, they declared victory. Many states that had created spare capacity undid their efforts, folding up temporary hospitals and dismantling beds with oxygen supply, infrastructure crucial to managing the second wave. The new surge promises to rapidly overwhelm the country's Covid capacity of 1.5 million isolation beds, 230,000 oxygen beds and 63,758 ICU beds as of September 2020.

There were also coordination issues between the Centre and the states. Both allowed things to drift. This Centre-state mismatch was starkest in New Delhi, where the oxygen distribution system collapsed and patients died in their critical care beds. The state government did not set up a monitoring mechanism or a control room to track the movement of oxygen tankers.

While the central government had an inkling of the need for medical oxygen at least since last year, it failed to anticipate the surge in demand. The Centre and the states were unable to enhance capacity. As hospitals ran out of oxygen in late April, there was a shortage of cryogenic tankers and oxygen trucks to supply liquid oxygen, cylinders for last-mile delivery and even on-site oxygen-generation plants—approved but not built—that could have reduced the reliance on tanker shipments.

Among the handful of government officials who forecast the arrival of the second wave and indeed prepared for it was the collector in a remote district of eastern Maharashtra. Last September, he set up a liquid oxygen plant to provide medical oxygen, several isolation wards and made prepartions for launching the Covid vaccination drive. If only the Centre and the states had learned from him.

The crux of the problem was the gap in demand and supply. The demand for medical oxygen registered a near 10-fold spike—from 700 metric tonnes per day (MTD) earlier this year to a projected 6,593 MTD in the 12 most affected states alone by April 30. Even large states like Maharashtra, with oxygen-producing plants, faced shortages. People began hoarding oxygen cylinders and Remdesivir injections, the surest sign that they had lost faith in the state's ability to deliver. The sustained neglect of medical infrastructure in some states exploded in our faces in the second wave. The global standard is 10-45 hospital beds per 10,000 people. India, on average, has just 5 beds for 10,000 people.

We now have a four-fold task on our hands—boost our oxygen supply, bend the curve of infections and reduce transmission, ramp up our vaccination capacity and rapidly create additional hospital infrastructure such as oxygen beds with attendants and doctors. This is because the second wave could seep into parts of India where the health system is abysmal.

Our cover story package, 'Breathless', looks at the impact of the second wave across the country. Executive Editor Sandeep Unnithan tracks the oxygen crisis. Executive Editor M.G. Arun and Associate Editor Anilesh S. Mahajan gauge its effect on India's 63.4 million MSMEs. At the same time, Senior Deputy Editor Amarnath K. Menon weighs in on the challenges in our vaccination campaign. Our state bureaus trace the spread of the virus into rural India.

The virus is a force of nature, but the tragedy we are living through is a man-made one. It results from criminal ineptitude, a lack of foresight among the rulers, gross mismanagement, bureaucratic sloth, over-regulation, weak implementation and, above all, political hubris. I cannot imagine a worse sight than our fellow citizens gasping for breath. India deserves better. Much better.

(Aroon Purie)

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COVER STORY

BREATHLESS

What is behind India's critical shortage of medical oxygen, who is to blame and what can be done

Cover by **NILANJAN DAS**

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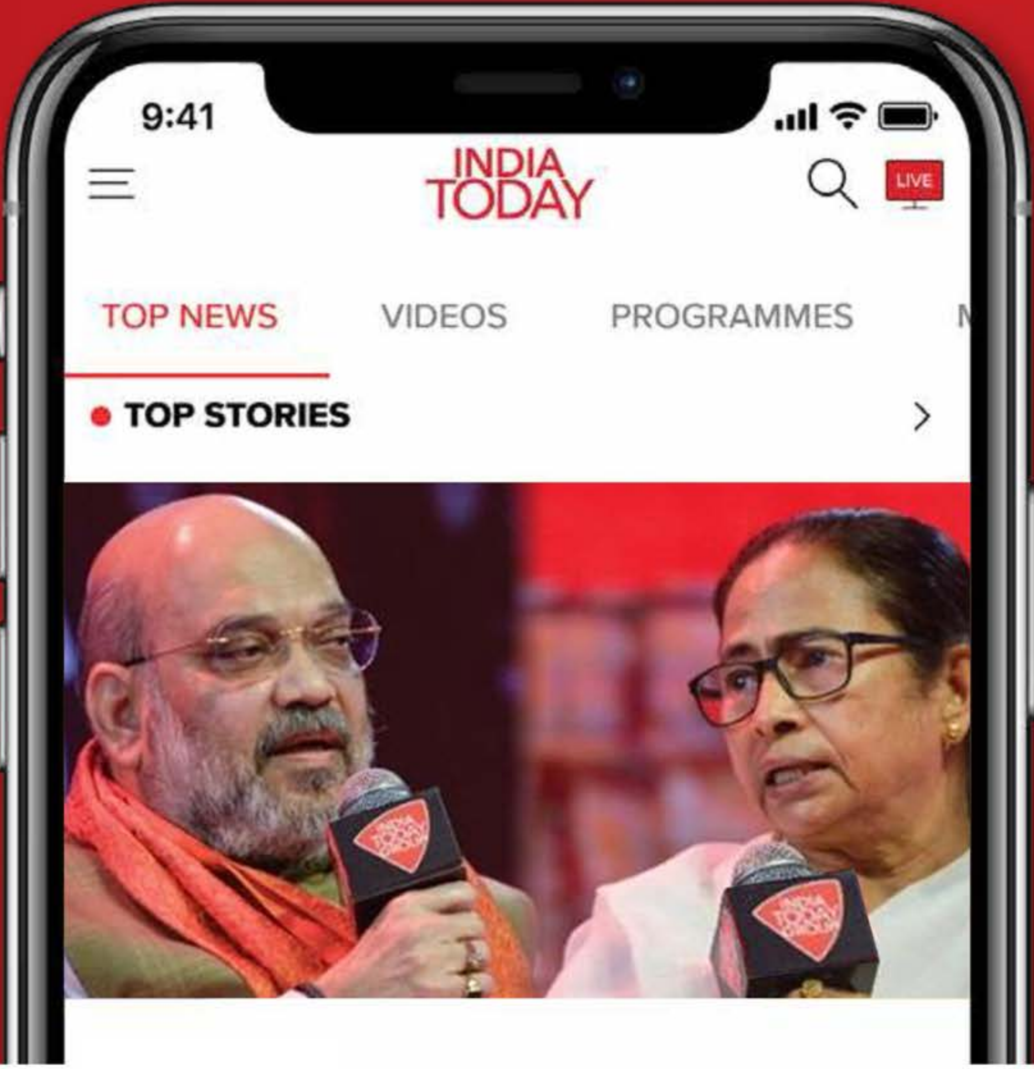

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Poor medical infrastructure and lack of preparedness are severely compromising rural India's fight against Covid

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The Camel Act was meant to save Rajasthan's state animal. Instead, it has led to dwindling numbers and despairing herders

INDIA TODAY MAGAZINE INSIGHT

Presenting India Today Insight

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Why are Covid cases going down in Mumbai? *By Kiran D. Tare*

The strict lockdown is showing results, but the rise in cases in high-rises is a worry

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How Kerala ramped up oxygen capacity and supply *by Jeemon Jacob*

An efficient healthcare system and the PESO unit's timely action on streamlining oxygen supplies helped the state

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Why US's belated offer of Covid aid to India has raised eyebrows *by Sandeep Unnithan*

As offers poured in from across the world, it took India's 'global strategic partner' over a week to break its silence

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Farmers' protests a potential super spreader? *By Anilesh S. Mahajan*

With a second Covid surge hitting the country, the state works on evacuating the farmers from protest sites

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The Covid surge has given Mamata's campaign new vigour *by Romita Datta*

The TMC is playing up the Centre's alleged mismanagement of the pandemic ahead of the last three phases of the West Bengal assembly poll

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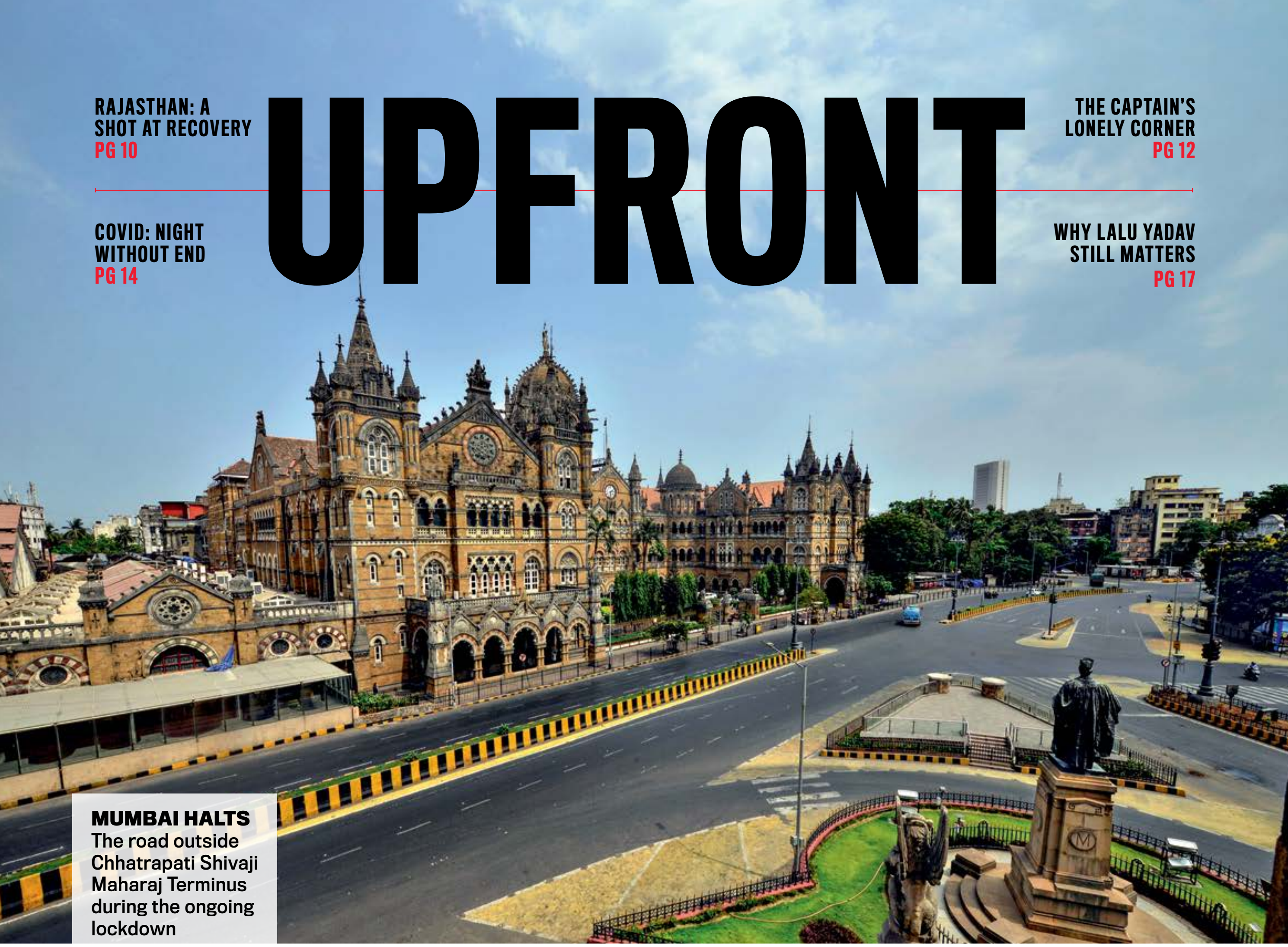


MUMBAI HALTS The road outside Chhatrapati Shivaji Maharaj Terminus during the ongoing lockdown

MILIND SHELTE

STATE FINANCES

THE COST OF LOCKDOWNS

By Anilesh S. Mahajan

In his address to the nation on April 20, Prime Minister Narendra Modi urged states to think of lockdowns as a means of last resort. Within a week, though, faced with a runaway spiral in Covid cases, Maharashtra, Delhi, Gujarat and Karnataka were forced to do just that, while Punjab, Chhattisgarh, Rajasthan and Haryana had to impose night and weekend curfews.

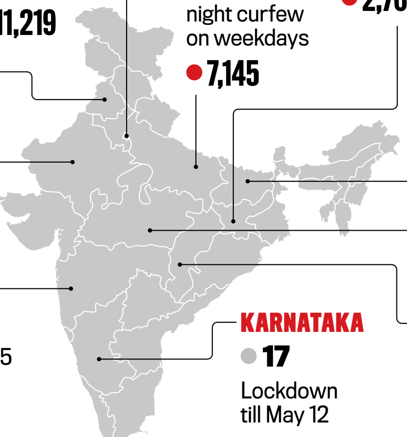
Already reeling from the aftereffects of the nationwide lockdown last year, Maharashtra was forced to announce an extension of its calibrated lockdown till May 15. It's the largest state in terms of GSDP (gross state domestic product) and contributes 14.2 per cent of the national GVA (gross value added). In FY21, the state's economy contracted 8 per cent in real terms and 5.6 per cent in nominal terms. Soumya Kanti Ghosh, chief economic advisor at State Bank of India (SBI), estimates in a report that the ongoing lockdown will wipe out over Rs 80,000 crore, or 2.7 per cent of the state's GSDP. Maharashtra's fiscal deficit was 3.3 per cent of GSDP in FY21—a 15-year high—and the current lockdown is grim news for its industry and services sectors, both of which witnessed a contraction of over 11 per cent last year.

Karnataka, which announced a two-week lockdown starting April 27, stands to lose around Rs 22,000 crore during the period. In the last fiscal, Karnataka's economy contracted 2.6 per cent. The state's borrowings in FY22 are estimated to be Rs 71,332 crore—around 33 per cent higher than the pre-pandemic estimate. The additional borrowings were necessitated by the 11 per cent dip in revenue receipts in FY21—Rs 1.6 lakh crore against the projected collection of Rs 1.8 lakh crore—and have nudged up the fiscal deficit from a manageable 2.55 per cent of GSDP to 3.23 per cent.

NIGHTMARE REVISITED

The financial impact on states of the ongoing lockdowns

TOP 10 STATES BY 'PROBABLE IMPACT'



PUNJAB
● 6.1
Night curfew, partial lockdown
● 4,994

DELHI
● 9
Lockdown for two weeks
● 11,219

UTTAR PRADESH
● 21.7
Weekend lockdown, night curfew on weekdays
● 7,145

JHARKHAND
● 3.6
Lockdown till April 29
● 2,768

BIHAR
● 7.6
Night curfew, partial lockdown
● 6,222

RAJASTHAN
● 12
Lockdown till May 3
● 17,237

MADHYA PRADESH
● 11.3
Lockdown in 15 districts
● 21,712

MAHARASHTRA
● 29.8
Lockdown till May 15
● 81,672

KARNATAKA
● 17
Lockdown till May 12
● 22,852

CHHATTISGARH
● 3.8
Lockdown in 20 districts till May 5
● 7,347

INDIA
● 222.9
● 1,86,008

Lockdown periods as on April 28
● FY22 Nominal GSDP (Rs lakh crore) ● Probable impact (Rs crore)

Source: SBI Research

The aggregate fiscal deficit of states in FY21 was 4.4 per cent of GDP while the country's fiscal deficit was pegged at 9.5 per cent of GDP. The deficit has widened as the Centre has had to raise debt from external sources to fund the states' revenue shortfalls and GST (Goods and Services Tax) losses. As per GST norms, the Union government is supposed to make up for the states' shortfall in GST collections.

The outlook is grim. "If the shutdowns continue for three weeks, as is expected, there will be an impact on economic revival over the next two quarters. This includes GST revenues and collections such as excise and VAT (value-added tax) for states," says Pinaki Chakraborty, director, National Institute of Public Finance and Policy (NIPFP), New Delhi.

The current and looming financial crunch will mean forced cutbacks in capital expenditure by states—on roads, bridges, highways etc.—a cumulative estimate of which for this fiscal was 10-15 per cent of their budget expenditure. The cutbacks will inevitably have a cascading effect on demand for cement and iron ore. Demand for fuel and liquor has already taken a hit, and the VAT levied on these items comprise roughly a third of state revenues.

The curfews, lockdowns and voluntary shutdowns of factories have already triggered a fresh exodus of migrant workers from the big industrial centres. Commercial centres in Mumbai, Delhi, Hyderabad, Chennai and Bengaluru are either shut or working at less than half their capacity. On April 20, Hero MotoCorp halted operations at all its manufacturing facilities till May 1. This was followed by several automobile and other manufacturers in Gurugram, Haridwar, Vadodara, Ludhiana, Sonepat, Manesar and Faridabad temporarily suspending production.

The drop in production and discretionary demand is bound to impact GST collections. Gross GST revenue collected in March 2021 had touched a record Rs 1.23 lakh crore. It was the fifth straight month in the last fiscal when GST collections crossed Rs 1 lakh crore a month. This momentum needs to be maintained in order to put states' planned capital expenditure back on track. Gopal Krishna Agarwal, the BJP national spokesperson on economic affairs, holds out hope. "Unlike last year, we know the disease better now and are well-equipped. There are challenges related to healthcare infrastructure and supplies, but both the Centre and the states are determined to resolve them at the earliest. The surge in Covid cases has not had much impact in 350 districts. There is no point in damaging the economy in these districts," he says.

> **COVID VACCINATION WILL BE A MAJOR EXPENSE HEAD FOR STATES. ROUGH ESTIMATES INDICATE STATES WILL NEED AT LEAST Rs 40,000 CRORE TO FUND THE DRIVE**

The vaccination drive will be a major expense head for state governments. The Centre has now allowed manufacturers to supply 50 per cent of the ordered doses to states and private players in the open market. Back of the envelope calculations indicate that, at current prices, states will need at least Rs 40,000 crore to fund the drive. Maharashtra, Uttar Pradesh and Assam have announced they will vaccinate people free of cost.

Financial institutions have estimated India's GDP growth in FY22 in the range of 7.7–13.7 per cent, not considering the effect of the current lockdowns. The months ahead will be a roller coaster. ■

GLASSHOUSE

THE VACCINE RACE

The buzz that Maharashtra might offer free vaccines to everyone in the state had set off a race among the partners of the ruling MVA (Maharashtra Vikas Aghadi) alliance to claim credit for the initiative. First, minorities affairs minister Nawab Malik of the Nationalist Congress Party (NCP) announced that the Uddhav Thackeray government will provide free vaccines to all. Within hours, Uddhav's son Aaditya Thackeray tweeted about it. Then, revenue minister Balasaheb Thorat said the Congress was pushing for free immunisation in the state. On April 28, as the state cabinet decided to vaccinate all in the 18-44 age group free of cost, Thorat had his task cut out–for it will be his responsibility to budget for the Rs 7,500 crore drive.

Illustration by SIDDHANT JUMDE

MANEESH AGNIHOTRI

Getting Tech-savvy

Last July, Uttar Pradesh chief minister **Yogi Adityanath** encouraged the state's MLAs and his cabinet ministers to use laptops and tablets for their work. This February, he arranged for their training by the National Informatics Centre ahead of a 'paperless' presentation of the budget in the assembly. The legislators were also offered reimbursement for purchasing iPads. The trend seems to have caught on. Adityanath, who is recuperating from Covid, now uses a tablet to send instructions to his ministers every morning.

CARAVAN MINISTER

A Madhya Pradesh minister has been seen travelling in the kind of vanity van one associates with movie stars. The vehicle is reportedly equipped with a bed, a bathroom, sofa and other amenities to keep the ride comfortable. But why such an unconventional mode of transport? It is because the minister's work keeps him outdoors, reasons one of his aides. Work from the van, it is then.

Policing the Police

Chief Minister **Mamata Banerjee** has been rallying against central paramilitary forces throughout the assembly election in West Bengal. Of late, Mamata also seems deeply suspicious of the state police. Didi alleged in Behrampore on April 25 that the police were working under the instructions of the Election Commission. A day earlier, she claimed in Bolpur that the police were hounding and illegally detaining her party workers, and exhorted them to launch protests outside police stations.

DEBAJYOTI CHAKRABORTY

–Sandeep Unnithan with Kiran D. Tare, Ashish Misra, Romita Datta and Rahul Noronha

RAJASTHAN

A SHOT AT RECOVERY

By Rohit Parihar

PURUSHOTTAM DIWAKAR

Marking a major departure from its conservative liquor policy, the Rajasthan government, on April 1, issued a notification allowing bars in the state to operate microbreweries. The state's excise department is its second-largest source of tax revenues and, after 15 years of stagnation, Chief Minister Ashok Gehlot has finally ushered in changes. The move has surprised many since Gehlot, a teetotaller and professed Gandhian, is not known to be sympathetically inclined towards stakeholders in the liquor business.

The apparent change of heart and the new liquor policy are, in fact, driven by the desperate need to shore up state revenues—for possible government interventions during the ongoing pandemic. The loss of revenue has, of course, been exacerbated by the pandemic and its devastating effect on tourism. A new, more liberal liquor policy, it is reasoned, might ease the flow of revenues into the state coffers. To this end, aside from the go-ahead for microbreweries in bars, new excise rules were also announced on February 6.

The state has also allowed an additional 2,100 urban vendors to sell both IMFL (Indian-made foreign liquor) and country liquor, raising the total number of vendors selling both IMFL and country liquor from 5,600 to 7,700. The new policy also does away with the lottery system for allotment of liquor shops. In its place, an e-auction system has been introduced. Welcoming the move, Nilesh Mewara, president of the Rajasthan Liquor Welfare Society, says: "This will give genuine bidders better choice and a chance to own two shops in a city and five in the state, as opposed to the earlier lottery system. Many winners used to sell off their shops."

The policy has also done away with the much-reviled Covid surcharge, which will reduce the rates of beer and other ready-to-drink bottled alcoholic beverages by 20 per cent. The excise department has set a revenue target of Rs 13,000 crore this year against Rs 11,500 crore last year, when, due to the Covid lockdowns, the state could only reach Rs 9,700 crore, says T. Ravikant, secretary, revenue. "This year, the government has already earned Rs 9,890 crore from the auction, with another Rs 500 crore expected from the auction of the leftover 600 shops," he adds. An additional Rs 3,500 crore will come from the various fees applicable.

Gehlot has also earmarked Rs 500 crore for tourism in the state. "These are pleasant surprises," says Randhir Vikram Singh Mandawa, president of Indian Heritage Hotels Association, co-chairman of FICCI Rajasthan State Council, and CMD, Mandawa Hotels. "Gehlot has thought about us when the Centre has been indifferent to the Corona-massacred tourism sector."

Tourism in Rajasthan, despite being a major source of revenue, has not been lavished the kind of attention many feel it deserves. The sector contributes, according to some estimates, about 15 per cent (much higher than the national average of 9 per cent), to the desert state's GDP, which lacks big industry or major trade and agriculture. In fact, tourism was granted industry status in Rajasthan in 1989 without the state government having done much about it.

The tourism bodies are now working on a proposal demanding that industry benefits—relief in electricity rates and urban and municipal taxes, currently being charged on commercial basis—be extended to the Covid-hit sector. "The government should be rushing to bring tourism on par with industry if it wants to save its golden goose," says Kuldeep Singh Chandela, president of the Hotel and Restaurant Association of Rajasthan and of the Rajasthan Association of Tour Operators.

Many, however, believe that these liquor- and tourism-related measures are too little and have come too late. "People, including women and the youth, have moved on from beer to whisky. I wonder if anyone will be able to recover the heavy investment required in setting up a microbrewery when half a dozen good brands of beer are available easily," says Ajay Singh Balunda, who runs The Rocks, a restobar in Jaipur. The excise department has fixed the licence to establish a microbrewery at Rs 5 lakh with a daily production cap of 1,000 litres. The excise duty imposed will be Rs 60 per litre. Balunda feels that allowing the sale of hard liquor in restaurants and bars would have been better. Rajasthan currently allows the sale of hard liquor only in hotels with a minimum number of 20 rooms. "Will anyone first go to a hotel bar to drink Scotch

A REVIVAL PLAN Rajasthan CM Ashok Gehlot (inset) has surprised many by bringing in changes in the state's liquor policy

before going to their favourite restaurant, which only serves beer and wine?" asks Balunda, who believes that these rigid norms have cost the government revenue and hindered the growth of the tourism sector. Liquor in Rajasthan is far more expensive than in nearby states and domestic tourists often carry their own when visiting the state.

Excise duty on liquor makes up more than seven per cent of the state's revenue, which, incidentally, is also the amount it spends on public healthcare. Gehlot, in order to bring in more money for welfare schemes in Corona times, has risked a few relaxations, but his move has not gone unnoticed by critics, who have gleefully pointed out the apparent contradiction between Gehlot's new policy and his avowed Gandhian way. The ongoing partial lockdown in the state (April 19 to May 3) makes exception for not just essential goods but also liquor shops. "The decision to allow liquor vendors to open their shops [during a lockdown] flies in the face of Gehlot's professed Gandhian ideals," said BJP's Vasudev Devnani, former minister and MLA.

In Rajasthan, any move to liberalise the excise policy for liquor lays the government open to criticism and a possible backlash—as had happened with BJP's Vasundhara Raje during her first tenure as chief minister in 2003. She had succeeded in shutting down cartels of local politicians running liquor businesses and set up a state corporation to procure and distribute liquor. She had also made liquor shops accessible by locating them in respectable neighbourhoods. This had led to a sharp increase in excise revenue—to Rs 1,800 crore within three years after stagnating at Rs 1,100 crore for three years. Interestingly, Gehlot's campaign against Raje at the time had involved accusing her of flooding the state with liquor. When Raje had returned to power in 2013, she had disappointed many by her over-cautiousness, rejecting demands to allow liquor vendors within malls, delaying closing hours to past 8 pm, setting up microbreweries and allowing sale of hard liquor in restobars.

During his second tenure (2008-2013), Gehlot retained most of the features introduced by Raje in the state excise policy, but, keeping in mind public sentiment, ordered closure of liquor shops by 8 pm and shut down some of the shops located in residential areas. Two years ago, Gehlot, quite the master at managing optics, also named a college in Suratgarh after Gursharan Chhabra, a former MLA who died in 2015 in Jaipur while observing a fast unto death demanding prohibition in the state. He also named an awareness campaign about liquor and its effects after the late MLA.

It is far from certain, though, that the new liquor policy and the hefty allocation for tourism can immediately come to the rescue of the bleeding sector. The latest Corona curbs have led to a near-total cancellation in hotels. In 2020, according to the state tourism department, tourism in Rajasthan registered a 72 per cent decline year-on-year. Thanks to the pandemic, foreign tourist numbers (450,000) in 2020 were down to almost a fourth of what was recorded in the previous year (1.6 million). Domestic tourist numbers saw similar attrition—from 52.2 million in 2019 to 15 million in 2020. With fewer foreigners expected to land here over the next two years, domestic tourism holds the key to the sector's revival. According to Arvind Jain, who runs hotels Sawai Vilas and Ranthambore Regency in Sawai Madhopur, and Vanaashrya in Sariska, "Instead of seeing us as a luxury and as Corona spreaders, the government should treat us as a generator of employment and revenues, and as Covid-safe getaways for tourists."

According to Mandawa, tourism bodies want a portion of the Rs 500 crore allocated for tourism to be set aside for marketing and promotion, support for inter-city air connectivity, renovation of all RTDC (Rajasthan Tourism Development Corporation) properties (which are reporting massive losses and are mostly shut), to support the *mahouts*, tourist guides, folk musicians and dancers and for the upkeep of monuments. Gehlot's revival plan is underway, but we'll have to wait and see how the pandemic pans out, which might have a bigger hand in determining how recovery goes—at least in the near term. ■

TOURISM TRAVAILS

₹9,700 cr.

Excise revenue in FY21;
FY22 target: Rs 13,000 crore

450,000

Foreign tourists in Rajasthan in 2020 compared with 1.6 million in 2019

₹500 cr.

allocated to the Tourism Development Fund in the state budget

PUNJAB

THE CAPTAIN'S LONELY CORNER

By Anilesh S. Mahajan

ਕੈਪਟਨ ਅਮਰਿੰਦਰ ਸਿੰਘ

GETTY IMAGES

There's hardly a year left for the next assembly election, and Punjab chief minister Capt. Amarinder Singh can ill afford to be seen stranded alone in a political crisis. On April 10, the Punjab and Haryana High Court quashed the SIT (special investigation team) report in a 2015 case on the desecration of the Guru Granth Sahib. Seen by many in the state as a travesty of the judicial process, the issue has snowballed into a political crisis for the chief minister. The latest to join the band of critics are two of his confidants—Congress state unit chief Sunil Jakhar and cooperatives minister Sukhjinder Randhawa. Both of them resigned from their posts on April 26.

The chief minister has rejected their resignations for now. Amarinder had ticked them off for making public statements that the state government had mishandled the case. Meanwhile, his usual baiters in the Congress, cricketer-turned-*neta* Navjot Singh Sidhu, Rajya Sabha MP Pratap Singh Bajwa and Ludhiana MP Ravneet Bittu are busy taking potshots. These are all powerful leaders the Captain can't afford to ignore—Sidhu has mass appeal among young Sikh voters; Bajwa is a former PCC chief and five-time cabinet minister; and Bittu is the grandson of assassinated chief minister and fallen hero, Beant Singh.

On April 27, Amarinder reacted to Sidhu's charges, alleging that the latter was once again building a case for his exit from the Congress party. In all this, the continued silence of the party high command must be worrying the chief minister. The party's top leadership has mostly ignored his complaints, especially against Bajwa (indeed rewarding him with more responsibilities), which has only further weakened Amarinder's grip on the party's state unit. Meanwhile, Jakhar in a statement has blamed the SIT fiasco on "overconfidence and a lack of political supervision".

The desecration incident was first reported at a gurudwara in village Bargari of Faridkot district, and was followed by 122 similar incidents in nearby Ferozepur, Amritsar, Ludhiana and Tarn Taran districts in October-November 2015. It's a sensitive issue for Sikhs everywhere, especially after the police firing on protesters at Kotkapura town killed two people. A section of the Sikh community sees the hand of Gurmeet Ram Rahim Singh, the jailed chief of the Dera Sacha Sauda sect in Sirsa, and his Dalit Sikh followers, in the incidents. Reports of the desecration of the holy book came after the Akal Takht *jathedar* (the highest temporal seat for the Sikhs) accepted the apology of the controversial leader for a 2007 incident, where he had allegedly worn clothes similar to those donned by Guru Gobind Singh. That decision had led to violent protests against the Dera chief, and the spiral of anger among the Panthic (religious Sikhs) voters later scorched then chief minister Parkash Singh Badal and his son Sukhbir Badal of the Shiromani Akali Dal (SAD).

THE SIT GOOF-UP AND THE HC JUDGMENT IN THE 2015 DESECRATION CASE COULD COST AMARINDER THE PANTHIC VOTES

In the 2017 assembly poll, Amarinder had called out the Badals as the perpetrators and vowed to put them on trial along with the cops who had opened fire. But now, with the SIT report falling flat in the high court, his own partymen are baying for the Captain's blood. Immediately after returning to power, Amarinder had constituted an inquiry panel under retired high court judge Ranjit Singh. The judge's report called the police firing "unwarranted" and also indicted Sumedh Singh Saini, the top cop during the Badal regime, among others. The report had also hinted at the role of top functionaries of the Dera Sacha Sauda in the incidents. In the past, Amarinder had openly taken the support of Dera chief Gurmeet Ram Rahim and his son-in-law, former Congress MLA Harminder Singh Jassi. The Dera has considerable support base among the Dalits in the Malwa region of the state, perhaps why the Ranjit Singh

THE HOT SEAT CM Amarinder at a press meet in March, on the occasion of his government's four years in power

report got a quiet burial.

After the HC verdict, the SAD is now claiming their stand has been vindicated, but other opposition parties like the Aam Aadmi Party (AAP), the (Sukhdev) Dhindsa-led SAD (Democratic) and the BJP are railing against Amarinder for playing politics and allowing the perpetrators to get away. On April 30, all the Sikh Panthic factions–except the Badal unit—are to gather at Kotkapura town to burn copies of the high court order.

Even as Amarinder was dealing with the political fallout, his IGP (Inspector General of Police) Kunwar Vijay Pratap, who was heading the SIT, put in his papers. The court's adverse comments while dissolving the SIT—that the investigation report was based on the IGP's "fantasies" and asking for his removal from the case—probably led to the resignation. Amarinder is now accused of "going soft" on the Badal family. An official spokesperson of the Punjab government rubbished these allegations, pointing to how the HC decision is being challenged in superior courts and a fresh SIT is now working the case.

But the Captain's troubles don't end here. Party legislators, including several cabinet ministers, have complained to the Congress high command about Amarinder and his coterie not taking them into confidence on crucial issues such as state government policies, disbursal of development funds and even political appointments to state bodies. This, along with the SIT fiasco, could lose him the Panthic voters who had backed him in 2017.

Riding the emotional desecration issue (along with the drug menace and corruption allegations), the Congress and AAP had successfully weaned away a huge chunk of the SAD's core Panthic voters. In the 2019 general election, Amarinder further consolidated the support of this influential vote bank, which had moved en masse to the Congress. The desecration issue has resurfaced at an inconvenient juncture for the Captain, with the state heading to polls in February 2022. It will also disrupt the momentum of his efforts to build bridges with party rivals ahead of the election. ■

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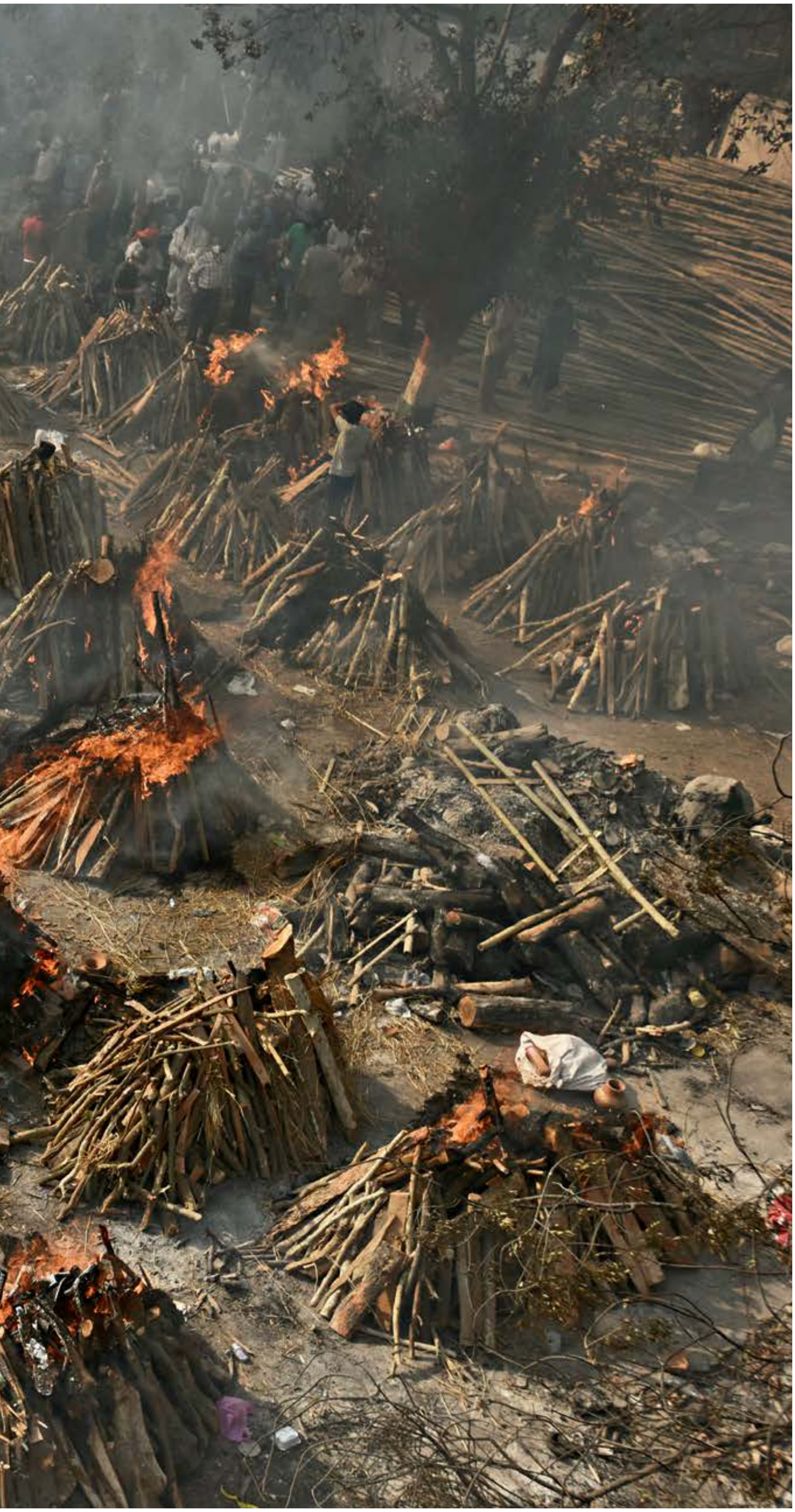
COVID'S NIGHT WITHOUT END

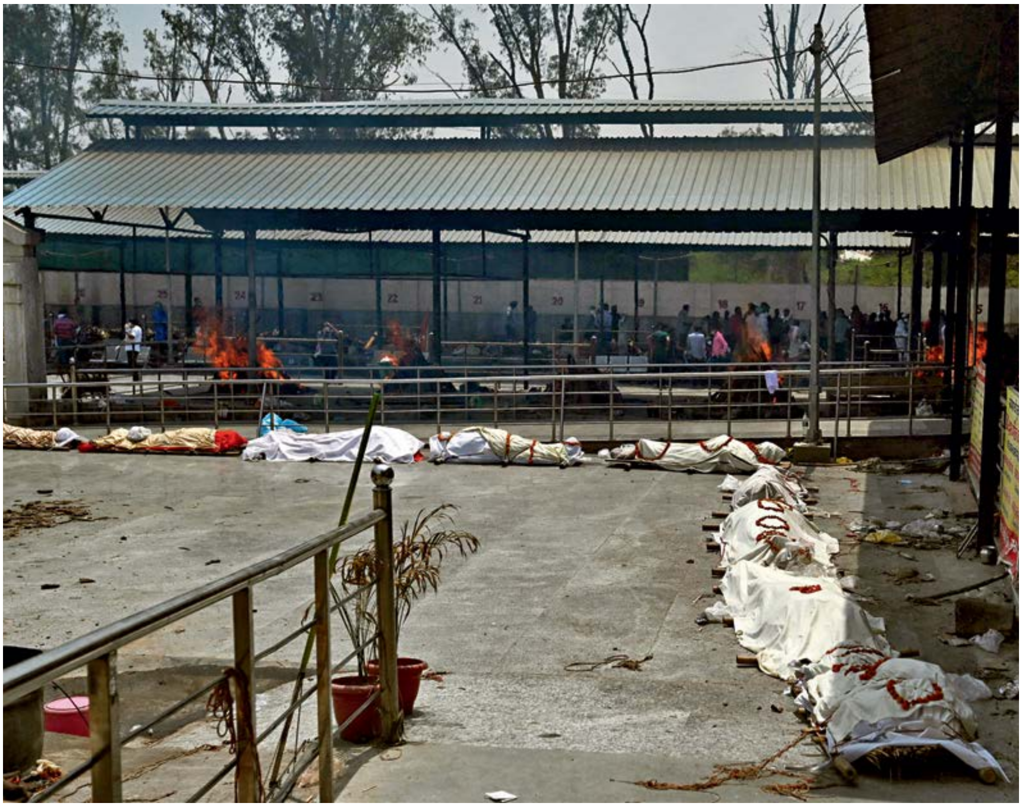
As a second wave of the coronavirus devastates the country, the surge in the number of deaths has been mind-numbing. As of April 28, the national death toll stood at 201,187. Overwhelmed crematoriums have had to hastily rig up makeshift pyres to keep up with the heavy influx.

Grieving relatives, many already wrung out from their harrowing experience in hospitals, were having to wait 16-20 hours for their turn to cremate their loved ones. Their only hope being to give their parent, child, friend a respectful send-off.



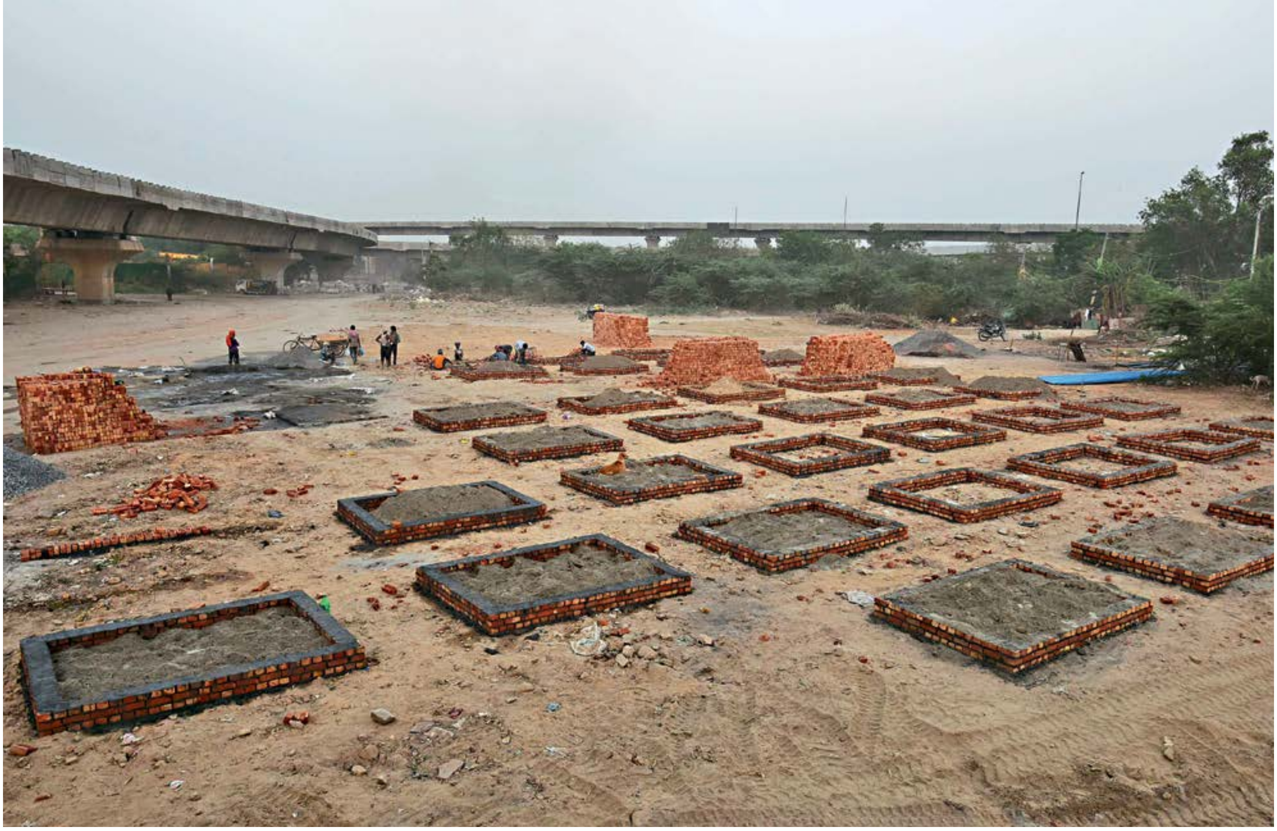
GETTY IMAGES

AS THE COUNTRY BURNS Cramped rows of funeral pyres burning at the Ghazipur crematorium in Uttar Pradesh (April 26)



THE ENDLESS WAIT
Bodies lined up at a cremation ground in New Delhi (April 28); and (below) workers build new platforms outside the Sarai Kale Khan crematorium in Delhi to keep up with the rising number of Covid deaths

GETTY IMAGES



BAIL, FINALLY

WHY LALU STILL MATTERS

By Amitabh Srivastava

It was fourth time lucky for Lalu Prasad Yadav. The former Bihar chief minister and Rashtriya Janata Dal (RJD) chief had been in jail since December 2017 after being convicted in various fodder scam cases. He had been refused bail three times earlier, and the unanticipated good fortune of the April 17 bail order by the Jharkhand High Court has injected a sense of optimism among the party cadre and Lalu's supporters in Bihar.

However, nearly two weeks after the bail order, Lalu hasn't yet made it to his home state, because he is in AIIMS (All India Institute of Medical Sciences), New Delhi, being treated for various ailments. Besides, his lawyers in Jharkhand have yet to collect

JAIL TIME
File pix of RJD chief Lalu Prasad from 2017 just before he was sent to prison

SOMNATH SEN

THE LALU CASE FILE

The fodder scam exposed in 1996 the embezzlement, over many years, of around Rs 1,000 crore by the state animal husbandry department by filing fake bills to treat and feed non-existent cattle. Many top politicians and officials have been convicted in the case. The cases against Lalu include:

- Withdrawal of **Rs 37 crore** from Chaibasa treasury. A CBI special court sentenced him to 5 years imprisonment in 2013. Secured bail in October 2020
- Withdrawal of **Rs 89.27 lakh** from Deoghar treasury; 3.5 years in jail. Got bail in July 2019
- **Rs 33.61 crore** withdrawn from Chaibasa treasury; 5 years in jail. Got bail in October 2020
- Fraudulent withdrawal of **Rs 3.13 crore** from Dumka treasury. Two separate sentences of seven years each, to be served consecutively. Got bail in April 2021
- A fifth case related to withdrawal of **Rs 139.35 crore** from Doranda treasury in Ranchi is still pending

the orders from the court, so he is still technically in judicial custody. The RJD patriarch will be turning 73 this June, and is likely to continue for some time in Delhi, given the pandemic situation. Sources close to the family say Lalu may stay in AIIMS for now till he can shift to his daughter and Rajya Sabha MP Misa Bharti's house in the capital.

A senior RJD leader, speaking anonymously, admitted that a free Lalu allows a lot more "leeway to the party". "Lalu can reach out to anyone, cutting across the political divide. Whether it is Jitan Ram Manjhi of HAM (Hindustani Awam Morcha), Mukesh Sahani (Vikassheel Insaan Party), the five legislators of the Asaduddin Owaisi-led AIMIM (All India Majlis-e-Ittehad-ul-Muslimeen) or even Nitish Kumar, nobody is off limits for Lalu Prasad. If Lalu is present and leading from the front, he has much more acceptability than his son Tejashwi can ever hope for," he says.

The West Bengal election result is out on May 2, and if it goes the BJP's way, chances are the party will start flexing its muscles in Bihar, where it is the dominant partner in a coalition government led by the JD(U)'s Nitish Kumar. A section of RJD leaders believe Lalu may even reach out to Nitish in such an eventuality. But all this is easier said than done. The biggest handicap for Lalu right now is that the next assembly election is only in 2025. An alternative government is possible only if Nitish breaks up with the BJP and joins hands with Lalu. And even partisan rumour-mongers in Bihar will admit such a possibility looks remote for now.

Besides, even though Lalu is still technically the party chief, son Tejashwi is leading the RJD for all practical purposes. "And this will not change," says a senior party leader, who did not want to be named. "The pecking order in the RJD has been finalised. Lalu can at most be a *margdarshak*, albeit with a lot more power than his counterparts in the saffron party. So, since Tejashwi's leadership is a given, it may limit the chances/ impact of Lalu reaching out, even if he tries to."

That said, it is to Lalu's credit that he still remains relevant, ever a polarising figure in the state. Unlike many politicians who vanished into oblivion once convicted, Lalu is still one of Bihar's most powerful and popular leaders. Nitish may have weaned away the Extremely Backward Class (EBC) and Backward Caste (BC) voters from Lalu's camp, but his committed Muslim-Yadav (M-Y) vote base is still with him. Their en bloc support is what brought Tejashwi so close to power in the 2020 assembly election.

It is Lalu's name that gave 30-year-old Tejashwi a cushion of at least 15 per cent votes in the constituencies his party contested. Indeed, there aren't many parallels among contemporary leaders—Lalu won his first Lok Sabha election way back in 1977. The political space in Bihar has seen tectonic shifts since, but Lalu's popularity has remained by and large intact. He may have lost elections, but the M-Y base has never deserted him. He was an MP from Saran when he was convicted for the first time in 2013.

A section of RJD leaders privately credit Tejashwi for leading the party from the front since Lalu's incarceration, but they also admit that the chosen heir has faltered when it comes to stitching an alliance. For instance, Manjhi and Sahani, the two leaders who brought eight MLAs to the NDA's table after last year's assembly polls—a fact that proved decisive in the latter forming a government in Bihar—were initially with the RJD-led grand alliance. They switched sides and joined the NDA on the eve of the election, blaming Tejashwi for ignoring them. "It may not have happened if Lalu had been at the helm," says an RJD leader. "Tejashwi is aggressive, which enthuses and rallies his supporters, but it also makes it difficult to reach out to potential coalition partners."

The timing of Lalu's bail is also significant. Given the Covid crisis and his ailments, the ageing RJD chief may be forced to stay indoors rather than reaching out to his people. Lalu had earlier got bail in three cases of the fodder scam—Deogarh, Chaibasa and the Ranchi-Doranda treasury cases—and was awaiting judgment in the Dumka case, where he has got bail now. The Rs 950 crore fodder scam, in which massive payments were released by the state animal husbandry department against fraudulent bills, came to light in 1996, and Lalu was first convicted in October 2013, during Nitish Kumar's second stint as Bihar chief minister.

BJP Rajya Sabha leader Sushil Modi has dismissed speculation about Lalu's return having any impact on Bihar's current politics. He says Lalu getting bail was part of a judicial process, and sees no threat to the NDA government in the state. Modi may have his reasons for underplaying the significance of Lalu's return, but his impact on state politics cannot be written off just yet. ■

देश का नं. 1
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जुड़े रहिए हर खबर से,
कहीं भी, कभी भी

अभी डाउनलोड करें

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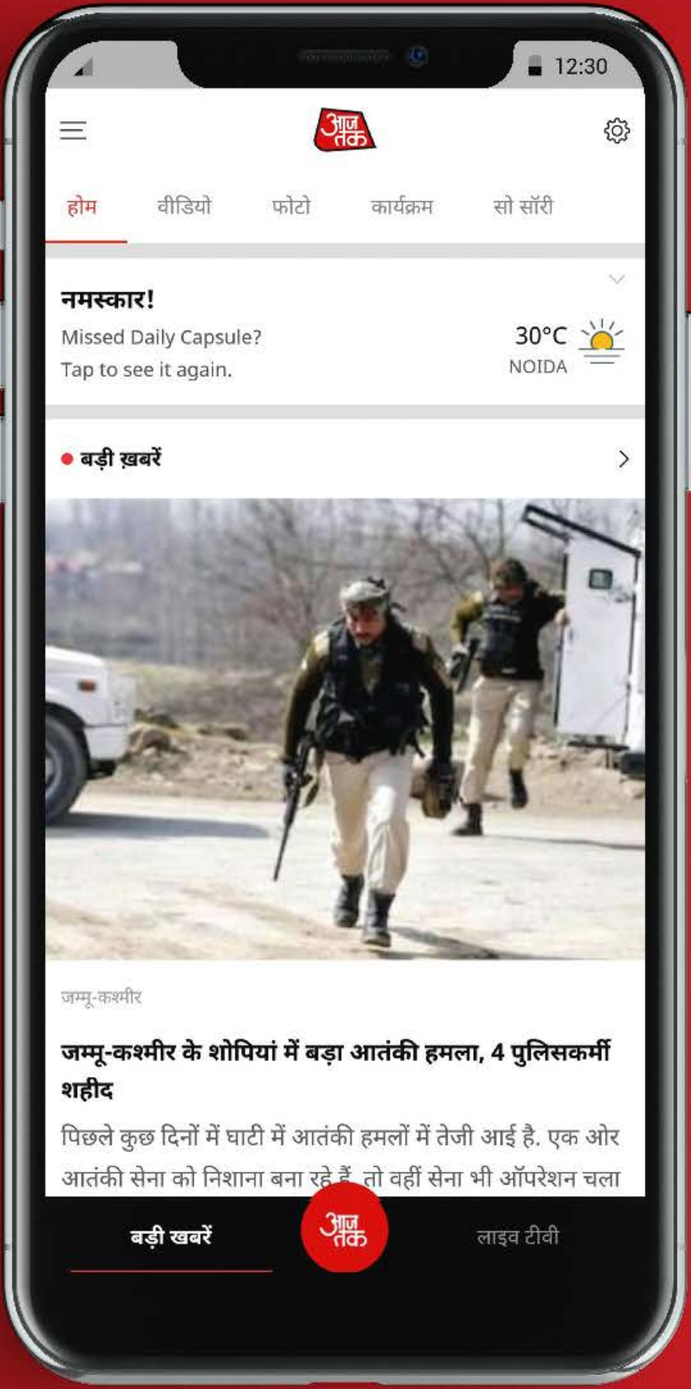
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पिछले कुछ दिनों में घाटी में आतंकी हमलों में तेजी आई है. एक ओर आतंकी सेना को निशाना बना रहे हैं, तो वहीं सेना भी ऑपरेशन चला

SYSTEM BREAKDOWN
A Covid-19 patient, on oxygen support outside Delhi's LNJP Hospital, waits to be admitted

AMAL KS/ GETTY IMAGES

COVER STORY

COVID 19 | OXYGEN

GASPING FOR BREATH

A LETHAL SECOND WAVE AND CRITICAL SHORTAGE IN OXYGEN SUPPLY HAVE CRIPPLED INDIA'S FIGHT AGAINST COVID. WHY DID INDIA FAIL TO FORESEE THE CRISIS AND WHAT CAN IT DO TO MITIGATE IT?

BY SANDEEP UNNITHAN

ON THE NIGHT OF APRIL 23, Subhash Varma, a 53-year-old healthcare professional, and his wife Anuja returned exhausted to their flat in Dwarka, a suburb in southwestern Delhi. They had spent a harrowing day trying to get Anuja's severely ill sister Tanuja Vidyarthi into the emergency ward at the Jaipur Golden Hospital, a designated Covid-19 treatment centre in Rohini, 22 kilometres away. A schoolteacher from Karol Bagh, Tanuja, 53, had tested positive for Covid on April 16 and rushed to the hospital after her blood oxygen level plummeted to under 70.

At around 1.30 am, the couple got a call from the hospital. Tanuja's condition had deteriorated and she had to be put on a ventilator. "We don't know what to do," the hospital told them, "please come in the morning." When the Varmas reached

THE GREAT SCRAMBLE

Liquid medical oxygen tankers being transported to Navi Mumbai onboard flat wagons (top); free oxygen cylinders being distributed by the resident welfare association of Delhi's Turkman Gate (bottom, left); and crowds gather at an oxygen filling centre in Delhi

AP

hospital five hours later, they were informed that Tanuja hadn't made it through the night. An anguished wail from distraught relatives of other patients made them realise why: "My sister died because the hospital ran out of oxygen...."

At least 20 patients at the hospital died that day because the medical oxygen running through the pipes in the emergency wards got exhausted. The patients slowly drifted into unconsciousness, most still hooked to their face masks, as the oxygen in their blood drained out, a condition called hypoxia.

"We are literally gasping for breath," a lawyer for the hospital pleaded before the Delhi High Court later that day. The hospital had exhausted its supply of liquid oxygen by 10 pm—a tanker that was to reach the hospital at 5.30 pm arrived only at midnight. Hospital authorities say when they switched over to their backup cylinders, the drop in pressure killed the patients.

Hospitals have blamed the Delhi government for not getting them oxygen in time. The state government, in turn, has blamed the Centre for not ensuring the shipments were not delayed. The blame game continued even as a second, more ferocious wave of Covid-19 turned India into the ground zero of the global pandemic. The graph of infections that had begun soaring vertically breached a global record on April 26—350,000 new cases. At the peak of the first wave—September 16 last year—India had recorded 96,424 new cases.

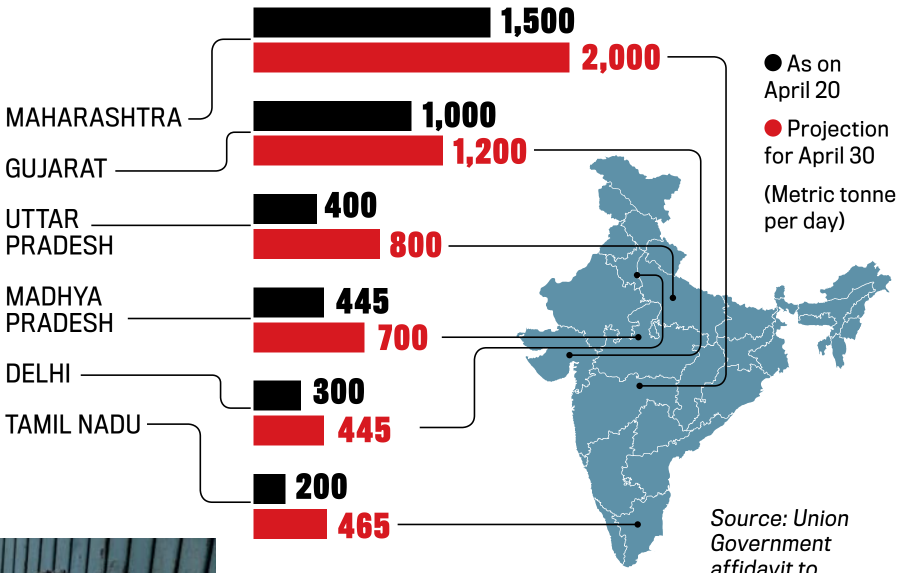
> "THE NEW MUTANT STRAINS ARE SO AGGRESSIVE THAT IF YOU DON'T GIVE **MEDICINES ON THE 1ST OR 2ND DAY**, THE PATIENT IS ALREADY IN A SERIOUS CONDITION"
>
> **DR SANDEEP DATTA**
> *Pulmonologist & Secy, IMA, West Delhi*

Thousands of seriously ill patients, their lungs blotted out by a virulently invasive SARS-CoV2 strain, poured into hospitals across 12 of the most severely affected states. The demand for medical oxygen registered a 10-fold spike—from 700 metric tonnes per day (MTD) to over 6,000 MTD by late April. India's creaky medical infrastructure began to give way under the deluge of new cases, and hospitals across the country began to register alarming dips in medical oxygen. Gujarat recorded a shortfall of 350 MTD; by mid-April, at least 19 people had reportedly died of lack of oxygen in districts like Rajkot, Banaskantha, Navsari, Mehsana and Surendranagar. Even industrial powerhouse Maharashtra, whose eight oxygen plants produce 1,250 MTD of medical oxygen, had to dial Gujarat, Chhattisgarh, and faraway Jharkhand and Andhra Pradesh for extra oxygen.

In Lucknow, the capital of India's

OXYGEN ALARM

The states likely to face a severe oxygen shortage over the next few days



Source: Union Government affidavit to Supreme Court on April 27

MANEESH AGNIHOTRI

47.5

PER CENT

Patients hospitalised for shortness of breath in the second wave compared to 41.7 per cent in the first

most populous state UP, demand spiked from 2,000 medical oxygen cylinders per day to 7,000. Rahmat Ali, a local resident, waited in queue for five hours with an empty cylinder outside Murari Gases, one of the only two gas-making plants in the city. Midway, he recalls, sobbing, a phone call informed him that his critically ill mother had passed away. Plant manager Sushil Singh pleaded helplessness. “We have been running the factory day and night to produce 800 cylinders per day, but are unable to meet demand,” he said.

However, the worst-affected by far was Delhi. The national capital recorded 24,149 new cases and 381 deaths on April 27. With no oxygen-producing plants of its own, Delhi had to rely on tankers from Uttar Pradesh, Himachal Pradesh and Rajasthan for medical oxygen. By April 20, Delhi’s hospitals needed 700 MTD of medical oxygen but got only 480 MTD. The Jaipur Golden Hospital tragedy, as it came to be called, was replicated across the city. Hospitals posted frantic appeals on social media as their oxygen stocks dipped perilously; staff asked kin to arrange for cylinders.

BLACK MARKETERS, sensing an opportunity to make a quick buck, hoarded scarce cylinders, and hawked jumbo ones for Rs 64,000 each. In Dashrathpuri in southwestern Delhi, the police seized 32 oxygen cylinders from the house of a black marketer who was decanting them into smaller cylinders and then selling them for Rs 12,500 each. In several places across the country, oxygen supply broke down completely. Leakages and low pressure killed patients. It was left to civil society and volunteers to provide leads on cylinders and ICU beds, as desperate kin took to social media to post their requirements.

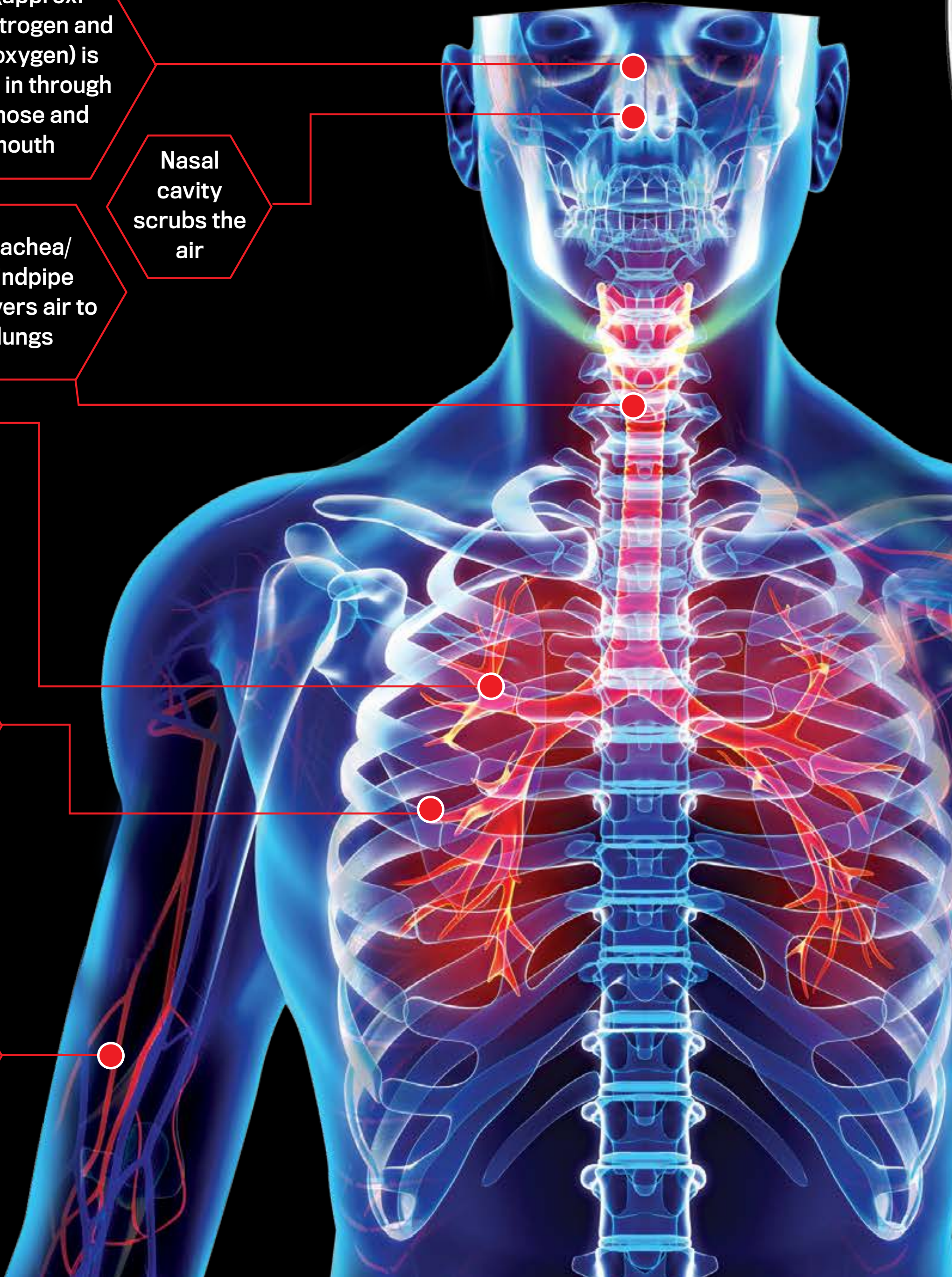
As Tanuja Vidyarthi’s relatives discovered, getting a critical care bed was only the beginning of their ordeal. One cannot be sure how many lost their lives to oxygen shortage, but timely supplies could have saved many lives and stemmed panic.

ATTACK OF THE MUTANTS

FASTER, AGGRESSIVELY MUTATING STRAINS OF THE SARS-COV2 VIRUS ARE THOUGHT TO BE RESPONSIBLE FOR A GREAT MANY CASES IN THE SECOND WAVE OF COVID. THE STRAIN IS BELIEVED TO ATTACK THE LUNGS EARLY IN THE PROCESS, NECESSITATING THE USE OF MEDICAL OXYGEN IN SEVERE CASES

Graphic by **NILANJAN DAS & TANMOY CHAKRABORTY**

HOW WE BREATHE



Air (approx. 78% nitrogen and 21% oxygen) is drawn in through the nose and mouth

Nasal cavity scrubs the air

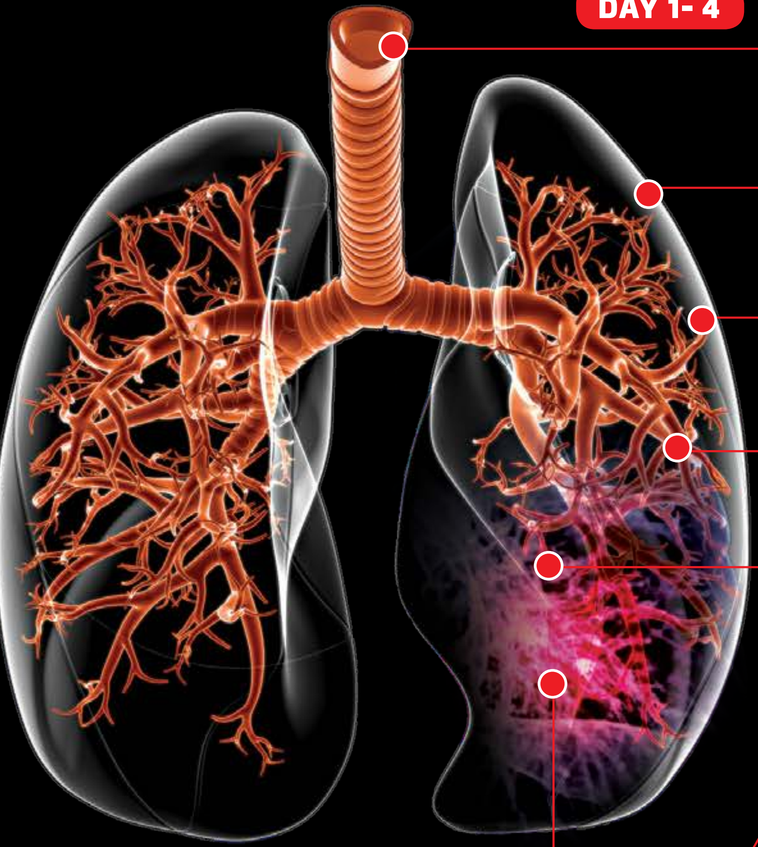
Trachea/ windpipe delivers air to lungs

Air flows into the bronchi and, from there, into its branches–the bronchioles

Bronchioles move air into tiny air sacs, or alveoli, where oxygen is separated from air and moved into tiny blood cells (capillaries) that exchange oxygen and waste between body tissues

Haemoglobin in blood transports oxygen to the rest of the body where it is used to produce energy. Carbon dioxide (CO_2) is a by-product of this reaction. The blood carries the CO_2 to the lungs and exhales it

THE FIRST WAVE VIRUS



DAY 1- 4

SARS-CoV2 virus enters the respiratory tract and attacks the lung cells

Virus attaches to the lung cells and starts replicating

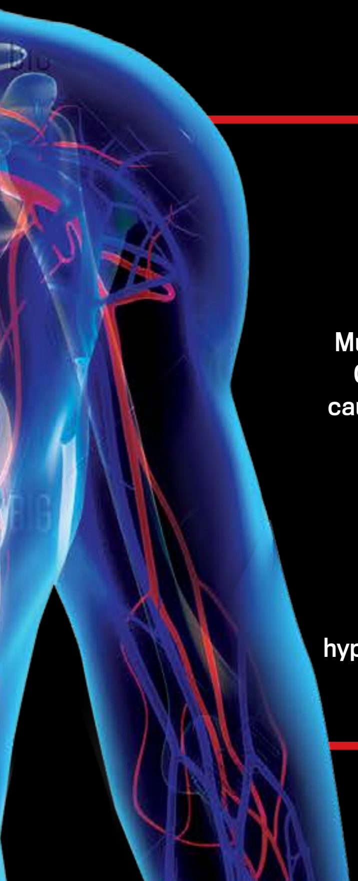
Cells start dying to protect themselves and break the infection chain

Large number of dying cells lead to tissue damage. Air sacs lining the lungs start leaking and fill up with fluid, triggering pneumonia

Blood supply to oxygen is disrupted

DAY 5

Body's immune system is triggered; it produces proteins called cytokines, which attack the body's own cells and tissues instead of the virus. This triggers what is called a 'cytokine storm', leading to lung inflammation, severe damage and, ultimately, hypoxia. Medical oxygen is required to assist breathing in the severely ill



SECOND WAVE

DAY 1

Mutant strain of SARS-CoV2 virus attacks, causing inflammation on the first day

DAY 3

Cytokine storm is triggered leading to hypoxia and necessitating medical oxygen

OXYGEN CYLINDER

5 ft tall

50 kgs

Holds 8,000 litres

A critically ill patient requires 2-8 litres of oxygen per minute

NOAH SEELAM / AFP

PREMIER OXYGEN

BOTTLING LIFE
A worker arranges medical oxygen cylinders at a facility near Hyderabad

The slow-moving government bureaucracy woke up only when the crisis exploded in their faces, and realised it would be days before additional supplies from the industrial centres in eastern India could reach. In an affidavit before the Supreme Court on April 27, the Union government projected shortfalls in supply in six Covid-affected states (see graphic *Oxygen Alarm*) by April 30. UP, with a demand-supply gap of 400 tonnes, was likely to be the worst-hit. To speed up the movement of oxygen trucks, the Hindon-based C-17 Globemasters, from the IAF's strategic airlift squadron, flew empty trucks to oxygen factories in eastern India. The foreign ministry sent out SOS-es to other countries for medical aid such as cryogenic oxygen tanks, cylinders and oxygen concentrators. But, for the grieving relatives, it was too late. "My sister-in-law could have been saved," says an anguished Varma, "they killed her."

LULL BEFORE THE STORM

On March 1, 2021, India recorded 12,286 new cases. It was a dip in the Covid-19 graph that had been flatlining since the beginning of the year. The pandemic, it seemed, was receding. India was getting back to normal. The surge of medical facilities that had been set up across the country during the first wave had begun to be dismantled. In February 2021, for instance, the Union home ministry had closed down a 10,000-bed Covid care facility, the world's largest, at the Radha Soami Satsang Beas in South Delhi's Chhatarpur last June. By March 26, the Election Commission had announced the election schedules for the five states going to polls.

Then, on April 6, India crossed 115,000 infections in just 24 hours, its single-largest daily case load since the start of the pandemic. The wall of the Covid tsunami had begun to loom over the horizon.

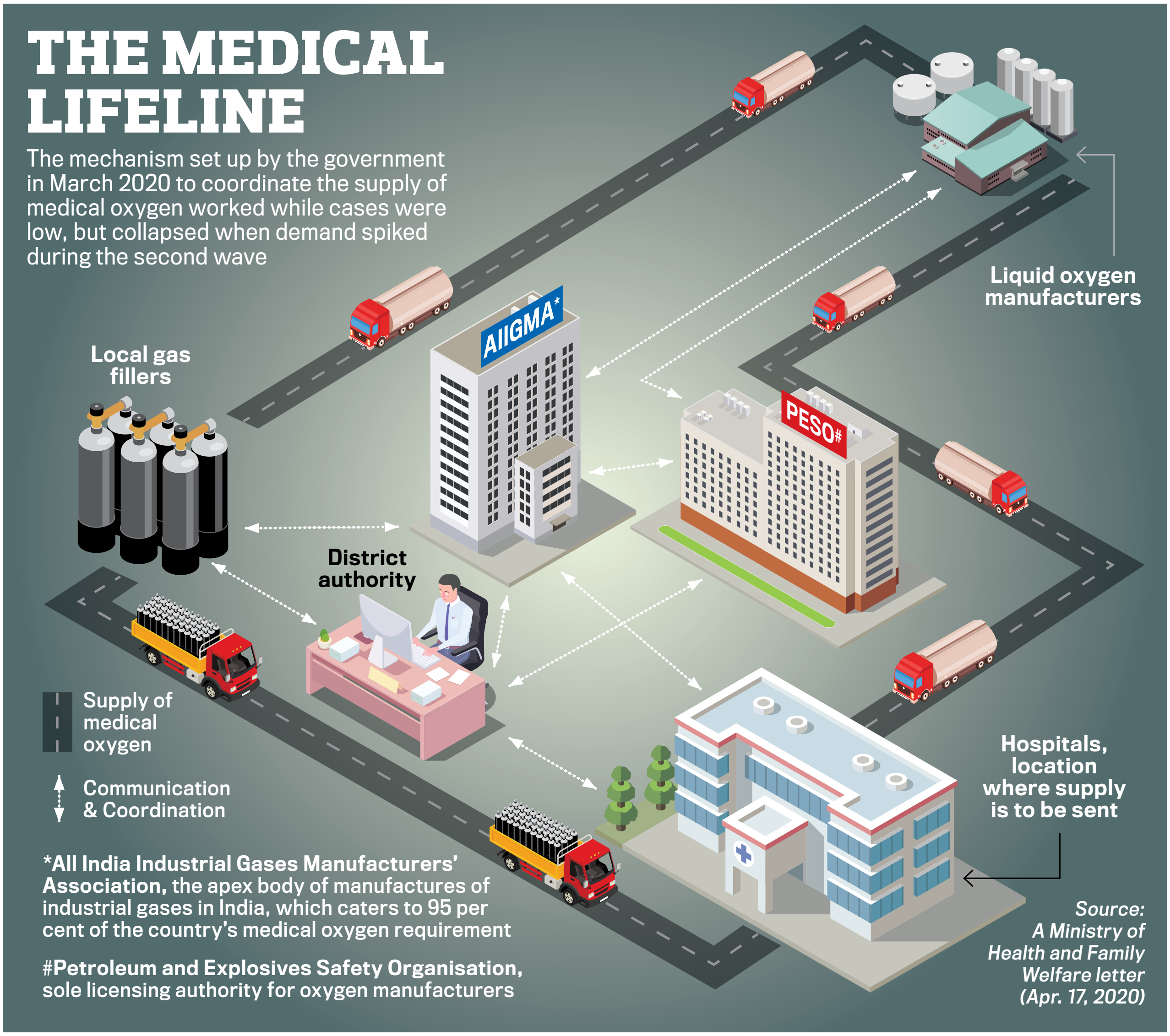
It was what Uddhav Thackeray, the chief minister of India's worst affected state, Maharashtra, had warned somewhat presciently in his Facebook address last November. "This second and third wave are strong like a tsunami. If you don't follow safety protocols, it will hit us."

As the second wave crashed into 12 states across the country, medical health experts began tracking an aggressive new strain of virus that hit the lungs, almost immediately, on the first day of the infection. Shortness of breath was the defining medical symptom of the second wave.

"The new mutant strains are so aggressive that if you don't give medicines on the first or second day, the patient is already in a serious condition," says Dr Sandeep Datta, pulmonologist and secretary of the Indian Medical Association, West Delhi.

The body's immune system triggers cytokines which attack the body's own cells and tissues and not the virus. This 'cytokine storm' leads to lung inflammation and severe damage, breaking down the lung's ability to process oxygen, leading to hypoxia. Medical oxygen required to assist

Graphic by TANMOY CHAKRABORTY



THE MEDICAL LIFELINE

The mechanism set up by the government in March 2020 to coordinate the supply of medical oxygen worked while cases were low, but collapsed when demand spiked during the second wave

Liquid oxygen manufacturers
AIIGMA*
PESO#
Local gas fillers
District authority
Hospitals, location where supply is to be sent
Supply of medical oxygen
Communication & Coordination

***All India Industrial Gases Manufacturers' Association,** the apex body of manufactures of industrial gases in India, which caters to 95 per cent of the country's medical oxygen requirement

#Petroleum and Explosives Safety Organisation, sole licensing authority for oxygen manufacturers

Source: A Ministry of Health and Family Welfare letter (Apr. 17, 2020)

> "WE HAVE BEEN RUNNING THE FACTORY DAY AND NIGHT TO PRODUCE **800 CYLINDERS A DAY**, BUT CANNOT MEET DEMAND"
>
> **SUSHIL SINGH**
>
> *Plant manager, Murari Gases, Lucknow*

breathing in severely ill patients thus becomes vital. In the first wave, the number of hospitalised patients short of breath was 41.7 per cent. It is 47.5 per cent in the second wave. With the virus spreading faster in the second than in the first wave, patients requiring oxygen also increased. A critically ill Covid patient could require anything from 2 to 8 litres of oxygen per minute. A five feet tall oxygen cylinder with 7,800 litres capacity would, therefore, last six hours.

That medical oxygen more than ventilators was going to be vital in the fight against a virus that paralysed the human body's breathing apparatus was something the government knew well by last year. It was among the points of agenda before the 11 inter-ministerial Empowered Groups set up by the central government in March 2020.

Medical oxygen makes up only a small fraction of the 7,500 tonnes of industrial oxygen India produces each day. Specialised air separation units suck in atmospheric air and break it down into its basic elements—nitrogen and oxygen. The oxygen is liquefied and shipped in specialised tankers in cryogenic containers in which it is stored at minus 183 degrees. Each tanker carries 17,000 litres of liquid oxygen. Since the Indian steel industry uses what is known as the basic oxygen process, or blowing pure oxygen to convert liquid blast-furnace iron into steel, most of the largest oxygen plants are co-located near India's steel-making belt, the states of West Bengal, Chhattisgarh, Jharkhand, Odisha, Andhra Pradesh and Tamil Nadu.

MEDICAL OXYGEN is shipped in two forms—in cryogenic tankers and jumbo cylinders. Each truck can haul a tank of 800 cubic metres of liquefied oxygen. One such truck can refill around 120 jumbo gas cylinders. Each 'jumbo' cylinder holds 7 cubic metres. In March last year, as the country headed into a nationwide lockdown, an empowered committee chaired by Guruprasad Mohapatra, secretary, Department for Promotion of Industry and Internal Trade (DPIIT), was tasked with ensuring the availability of essential medical equipment, oxygen among them. In meetings with the All India Industrial Gas Manufacturers' Association (AIIGMA), which represents 95 per cent of India's industrial gas manufacturers, and the licensing authority, the PESO (Petroleum & Explosives Safety Organisation), they worked on ramping up the existing supply of 4,200 MTD of medical oxygen. As cases surged, the government steadily increased production to 7,191 MTD by October.

On September 1 last year, 43,022 Covid patients were hooked on oxygen support. Medical oxygen cases surged to 75,098 patients by the third week of September when nationwide cases peaked at 97,894 cases per day. The health ministry had by then increased the number of oxygen beds from 57,000 to over 200,000. On October 14, the health ministry decided to import 100,000 MT of medical oxygen for Rs 9.8 crore—a buffer stock of one month—just in case demand surged in winter. Officials at the health ministry PSU HLL Lifecare told INDIA TODAY that the tender was withdrawn because the bidders did not meet the reserve price.

"We are in an extremely comfort-

Graphic by TANMOY CHAKRABORTY

LIQUID GOLD

A look at all categories of oxygen production and distribution

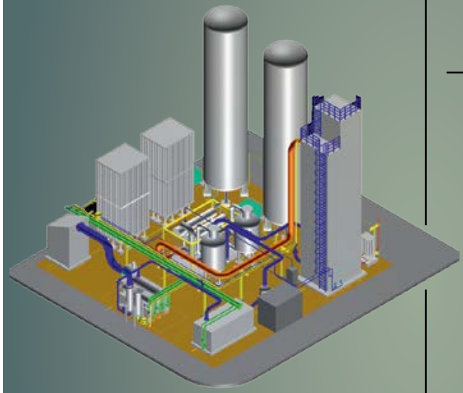
INDUSTRIAL

CRYOGENIC AIR SEPARATION UNITS

Produces oxygen from the available atmospheric air in cryogenic air separation units

Output: between 50 and 500 cubic metres* per hour

Cost: ₹1-9 cr.



LOCAL

PRESSURE SWING ADSORPTION (PSA)

For hospitals that don't have access to regular oxygen

Output: 20-200 cylinders per day

Cost: ₹50 lakh for a 50 cubic metre plant producing the equivalent of 170 cylinders per day

OXYGEN GENERATOR

DOMESTIC

OXYGEN CONCENTRATORS

For household use (for treating mild to moderately ill patients)

Capacity: 5-10 litres per minute

Cost: ₹40,000-90,000

MOBILE SUPPLY

CRYOGENIC TANKER

Capacity: 12,000 cubic metres/ 2 tonne (can refill around 120-130 jumbo gas cylinders)

Cost: ₹30 lakh

JUMBO GAS CYLINDER

Capacity: 7 cubic metres (water capacity, 47 litres; and oxygen capacity, 7,000 litres)

Cost: ₹8,000

Weight: 50 kgs

Medical oxygen: Rs 40 per cubic metre

**1 cubic metre = 1,000 litres*

able position when it comes to supply of medical oxygen," Union health secretary Rajesh Bhushan had said on October 20 last year. "There was neither any shortage of medical oxygen in the country in the past 10 months nor any shortage now."

As Covid-19 cases registered a nationwide dip in 2021, the demand for medical oxygen, too, declined. By February 2021, the AIIGMA says, daily demand had dropped to between 1,200 and 1,400 MTD. The Centre and the states, having declared victory prematurely, scrambled to cope when the second surge began in early April, putting under severe strain the system set up to monitor oxygen shipments (see graphic *The Medical Lifeline*). The government's empowered group, headed by DPIIT secretary Mohapatra, mapped the oxygen sources for 12 high-burden states where a spike in cases had been noticed. Demand in Maharashtra was expected to outstrip production capacity even as requirements in Gujarat, Karnataka and Rajasthan began seeing a steady climb. The committee mapped the sources of medical oxygen and production capacity to help states match their requirements. It allotted 6,593 MT to these 12 states. The Union health ministry directed oxygen suppliers to give oxygen to hospitals.

By late April, the oxygen crisis had exploded. It was clear that the committee had failed to anticipate how swiftly demand would spiral and how its distribution network would fall short. Overburdened factories faltered. INOX, one of India's largest medical oxygen suppliers whose plants in Noida and Modi Nagar in UP, Himachal Pradesh and Rajasthan supply most hospitals in North India, said they could not cope.

"Demand has increased exponentially and INOX will not be able to cater to such increased demands as we have production constraints," Vishal Shah, an INOX representative, wrote in an April 24 letter to Udit Prakash Rai of the Delhi government's health and family welfare department.

"Demand grew exponentially, and before anyone knew what was happening, it hit them," says Saket Tiku, AIIGMA president, who has been part of many government meetings to coordinate supplies since last March.

The Centre failed to anticipate the impact a massive surge in oxygen demand would have on its distribution infrastructure. India has only 1,700 tankers to ship liquid oxygen whereas the increased demand would need double this fleet size. The sheer distances a truck would have to cover across the breadth of India, ferrying additional liquid oxygen from the production hubs in the east to the consumption points in the west meant each truck would be out of action for close to a week. Cryogenic ISO containers, 20-feet-long cylindrical tanks that store oxygen, were also in short supply and had to be improvised. Maharashtra dispatched trucks onboard rail cars normally used to transport military armoured vehicles to fetch gas from Vizag. The increase in the supply of medical oxygen cylinders during the lockdown, from 500,000 pre-Covid to around 1.3 million in the past year, proved insufficient as cases continued to mount.

> “DEMAND [FOR OXYGEN] GREW EXPONENTIALLY, AND **BEFORE ANYONE KNEW WHAT WAS HAPPENING**, IT HIT THEM”
>
> **SAKET TIKU**
> *President, AIIGMA*

Most states, too, were caught napping by the crisis. Gujarat, for instance, did not set up a single oxygen generation plant in the past year, assuming existing production was enough to meet any requirement. Rajasthan needs at least 30 tankers, instead of the current 14, to transport oxygen from its plants to hospitals.

Chhattisgarh saw its total consumption of medical oxygen jump from 3.5 MTD to 110 MTD in a month by mid-April when 6,000 patients needed oxygen support. While the state has excess oxygen owing to its industry, it faces a shortage of containers to transport oxygen from plants to medical units.

In Lucknow, bureaucratic ineptitude slowed down a 2018 state government plan to set up oxygen plants in 42 government hospitals, each with a capacity of 2,000 MTD—Rs 200 crore had been sanctioned in the 2018 budget and 2019 had been set as the completion date. The hospitals included the four in the state capital that are now overwhelmed: Civil Hospital, Jhalkari Bai Hospital, Bhaurao Deoras Hospital and the Thakurganj Hospital. The health department's tendering process was soon mired in controversy, with many blacklisted companies in the fray. "There were some objections by the government to the tender process," Dr D.S. Negi, the director-general, health, explains. "Once these are overcome, we will seek permission to restart the project."

IN MAHARASHTRA, the chief minister and his government appeared to be on different wavelengths. The government did not initiate additional oxygen plants in the state for a year. It took the deaths of 48 patients—reportedly due to lack of oxygen in hospitals across the state—to rouse it into action. On April 24, the state health department asked the finance department for Rs 743.72 crore to set up PSA (pressure swing adsorption) plants and purchase oxygen concentrators along with Remdesivir injections.

In Madhya Pradesh, oxygen tankers have to wait in mile-long queues at the BHEL plant to secure supplies. The lengthy turnaround time is the chief reason for the current crisis, with one refill taking 4-6 hours due to the queue. A common sight outside hospitals is people carrying their own cylinders for oxygen refill. Only in Tamil Nadu and Kerala was there no rush in hospitals. An extensive screening process by both states ensured that only seriously ill patients were assigned to the designated oxygen beds in hospitals, where they receive prompt and competent care.

The central government, for its part, had sanctioned the setting up of 162 PSA plants in 14 states last year. When the second wave struck, only 30 of these plants were operational. It is doubtful whether these plants, with an average supply of 1 MTD, could have handled the surge. Yet, they could have eased the pressure on the supply network.

The government, meanwhile, has sanctioned PSA plants for another 100 hospitals to reduce the requirement for medical oxygen. On April 16, it floated a tender for importing 50,000 MT of medical oxygen. As oxygen supply became acute on April 22, the government diverted most of India's 7,500 MT of daily production of industrial oxygen to the medical sector. Industry representatives, however, say these instructions were not followed. Trucks with oxygen were stopped by local administrations in districts and, in some cases, states obstructed interstate movement of trucks.

As cases across the country skyrocket for a second successive week and the surge in demand for oxygen continues, manufacturers warn of a crisis. Cases in Karnataka and Madhya Pradesh have picked up. "Except for the Northeast, there isn't a single state I don't get calls for," says AIIGMA's Tiku. As the second wave shows no sign of abating and fears of it spreading to Tier 2/3 towns and villages mount, the ability to speedily ramp up critical care, including oxygen facilities and concentrators, will be vital.

On April 25, an IIT professor said that active cases in India's second wave could peak at 3.8-4.8 million between May 14 and 18. Professor Maninder Agrawal, of the Department of Computer Science and Engineering, IIT Kanpur, told news agency PTI his mathematical model suggests daily new infections could peak at

162

PSA PLANTS

is what the govt had sanctioned for 14 states last year. When the second wave broke, there were only 30

REUTERS

AP

BARELY HOLDING ON

A patient with an oxygen mask waits outside LNJP Hospital in Delhi (left); and another receives oxygen at a gurudwara in the city that has made arrangements to provide free medical oxygen

“BETWEEN FEBRUARY AND NOW, WE INCREASED MEDICAL OXYGEN SUPPLY BY SEVEN TIMES,” SAYS A CABINET MINISTER. “WE **MAPPED DEMAND, CAPPED PRICES** AND CREATED GREEN CORRIDORS”

440,000 cases between May 4 and 8.

The continuing surge risks a collapse of India’s creaky hospital infrastructure. The global standard is 10-45 hospital beds per 10,000 people. India, on an average, has just five beds for 10,000 people.

Frantic missives have already gone out from India’s overseas missions for oxygen-related infrastructure. ‘India needs empty, refillable oxygen cylinders with 10 litres and 45 litres capacity, oxygen concentrators, in situ oxygen manufacturing plants for hospitals and Remdesivir,’ an Indian diplomat tweeted from the High Commission in London last week. Offers of assistance poured in—from Germany, the United Kingdom, France, Russia and even China. The US responded nearly a week after the surge, committing substantial aid, including oxygen concentrators, rapid diagnostic test kits, ventilators, PPEs, raw material for the Covishield vaccine and medical and technical teams. IAF C-17s brought in more ISO containers from Saudi Arabia, the UAE and Singapore.

On April 22, the government diverted all industrial oxygen for medical use. To increase vehicle numbers, the government has authorised tankers that carry liquid argon to carry medical oxygen. Even LNG tankers are being allowed to carry liquid oxygen, with some precautions. Tankers to transport liquid oxygen are critical. One tanker, for instance, can be used to cater to two hospitals in 24 hours.

The Centre says it has done its best. “Between February and now, we increased the supply of medical oxygen by seven times,” a cabinet minister told INDIA TODAY. “We mapped the demand of all the states, told them which plants they had to deal with to source their oxygen supply. We capped the price of oxygen and created green corridors to move the oxygen swiftly.”

LESSONS OF THE SECOND WAVE

India’s oxygen crisis holds out several important lessons. The primary one is to swiftly recognise the problem. The massive demand-supply shortfall in a life-saving product was clearly a national disaster across states. Yet it was treated as a medical crisis to be handled by the health ministries of the Centre and the states and it was left to oxygen vendors to deliver to hospitals. Disturbingly, there was no real-time centralised mechanism or a real-time dashboard that could monitor the swift nationwide movement of oxygen. All it needed was a single person coordinating supply across the country and cutting through the bureaucracy.

On April 26, former navy chief Admiral Arun Prakash, who had overseen disaster relief during the December 2004 Indian Ocean Tsunami, warned of a grave national emergency and asked for the military to be called in. In a tweet, he suggested setting up an operation centre under a 3-star officer with the armed forces medical services to monitor the nationwide situation and advise the PM on resource management/ allocation and use of military personnel.

Had an oxygen emergency been declared, a national disaster under the Disaster Management Act, experts say, it would have set into motion a completely different set of protocols. The National Disaster Management Authority (NDMA), which operates under the home ministry, would have stepped in. The NDMA’s incident response system mandates the setting up of a control room to coordinate the delivery of oxygen with state governments on a war footing. State governments would have taken over the oxygen distribution network.

Industry experts say there is an urgent need to ramp up on-site oxygen-generating capacity. “The government must make it mandatory for each hospital to have a PSA—the technology is available within the country and can be set up in weeks. Can a hospital say it doesn’t have emergency backup power or medical instruments?” asks Aditya Kumar, MD of the Ahmedabad-based Enviro Water Integrated Pvt Ltd.

In Maharashtra’s Nandurbar district, for instance, the enterprising district collector, Rajendra Bharud, used Rs 85 lakh of development funds to set up a liquid oxygen plant at the district hospital. He set up two more plants in January and February, increasing the capacity to 2,400 litres per minute. He demonstrated how a localised effort could come in useful to meet the demand for oxygen.

Now, Maharashtra, the state worst affected by Covid-19, is exploring such options. The state health department has proposed the installation of 132 oxygen plants with a capacity between 600 and 3,500 litres in 23 districts. They will help the state overcome its shortfall of 500 MT of oxygen. Sudhakar Shinde, director of health services, has suggested decentralised distribution—the oxygen could be stored in Nashik, Pune, Kolhapur, Aurangabad, Latur, Akola and Nagpur. India’s oxygen crisis perhaps has shown the way to greater self-sufficiency. It is each one for himself. ■

—with Amarnath K. Menon, Anilesh S. Mahajan, Kiran D. Tare, Rahul Noronha, Ashish Misra, Rohit Parihar and Jeemon Jacob

COVER STORY

COVID 19 | RURAL

A LOOMING CALAMITY

POOR MEDICAL INFRASTRUCTURE AND LACK OF PREPAREDNESS ARE SEVERELY COMPROMISING THE FIGHT AGAINST COVID IN RURAL AND SMALL-TOWN INDIA

BY **RAHUL NORONHA**

ANIL TIWARI

Giridhari Lal Thakrey, 50, a school teacher in village Katang Tola, 50-odd km from the district headquarters of Balaghat in eastern Madhya Pradesh, complained of fever, cough and cold on April 12. He was taken to the government health centre in Waraseoni, the block headquarters, where he died the following day. His wife Tomeshwari Thakrey complained of similar symptoms on April 14 and passed away the same evening. Soon, Giridhari's elder brother, Kunwar Lal, developed symptoms, tested positive for Covid and was admitted to a hospital in Waraseoni. Katang Tola and adjoining Jhaliwada village have at least 300 people with influenza-like symptoms, but most of them are resisting Covid testing or treatment, believing it to be seasonal flu. Now, following the deaths, a degree of concern has set in.

After overwhelming the health apparatus in cities and towns across states, Covid is spreading into the rural areas, which had largely remained unaffected in the first wave in 2020, creating a myth among many that Covid is an urban phenomenon. It's not only in MP that villages are witnessing a surge in cases. Rural Maharashtra is perhaps the worst hit and is contributing more cases to the state's total tally than its urban areas. Rajasthan, too, is reporting a rapid increase in Covid cases

GRIM END Bodies of the Covid deceased at a crematorium in Jabalpur, MP

from the rural areas while the spread in rural Uttar Pradesh is being blamed, among other things, on the flouting of Covid protocols during the panchayat elections being held through April.

While lack of awareness and reluctance to submit to testing and treatment make the rural population more susceptible to Covid, the problem is compounded by the fact that most of the medical infrastructure, especially the tertiary centres, is concentrated in the cities, where serious patients from the villages are now heading in the hope of finding treatment.

Caught off guard, both the Centre and state governments are exploring strategies to stop the second wave of Covid from sweeping the rural areas, where the bulk of the population lives. Prime Minister Narendra Modi, speaking on the occasion of Panchayati Raj Diwas on April 24, said that the challenge from Covid was bigger this year and efforts were required to stop villages from being affected. “I am confident that if someone is going to emerge victorious first in this fight against the coronavirus, then it is going to be India’s villages and the leadership of these villages. The people of the villages will show the way to the country and the world,” he said.

State governments have mounted a response to this spiralling health emergency. But, as the following reports from states by INDIA TODAY correspondents show, with much of the machinery engaged in battling the challenge in the urban areas, resources are scarce to mitigate the Covid threat looming over the rural belt. ■

MADHYA PRADESH

Of the nearly 150,000 people identified, since April 5, with influenza-like symptoms in the rural areas of Madhya Pradesh, around 26,000 have tested Covid positive, indicating a positivity rate of 17.3 per cent, which is not far behind the state’s overall figure of 23 per cent as on April 27. These rural patients constitute about 14 per cent of the total 189,055 new cases reported in MP between April 5 and 25.

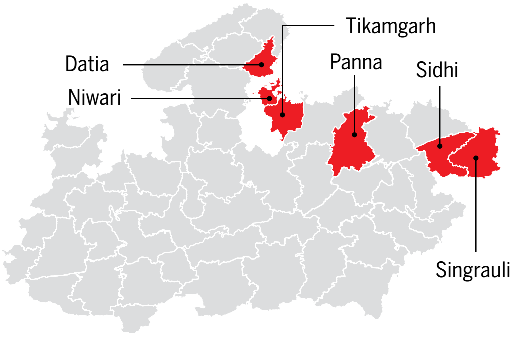
Given the woefully inadequate medical facilities in the rural areas, villages are as good as on their own in the fight against Covid. Of the 819 Covid treatment centres, only 69 are located in the rural areas. Of the total 21,637 isolation beds in the state, only 3,039 are in the rural areas. While the urban areas have 22,145 oxygen beds and 9,271 ICU beds, respectively, there are only 338 oxygen and 51 ICU beds in the rural belt.

RURAL POPULATION (% OF TOTAL)

52.2 mn (72%)

RURAL OXYGEN BEDS

338



● *Districts with steep rise in cases*

Villagers living near the big cities are making a beeline for hospitals there. “About 30-35 per cent of the patients in hospitals in Bhopal are from villages and small towns located within a 200 km radius. It’s the same story in Indore,” says a health department official.

What explains the spread of infections in the hinterland? Large parts of the population in southern and eastern MP have cultural and economic ties with towns and cities in Maharashtra, and public linkages continued even as the second wave of Covid swept the latter. Many migrant workers returned to their villages in MP from Maharashtra around Holi. While symptoms began to show up in the villages in the first week of April, they were largely ignored until deaths began to be reported. “Within MP, the rural population was also exposed to infections in towns such as Waraseoni, Katangi, Baihar, Lanji and Malajkhand in Balaghat district, where most go for accessing citizen services, selling their produce or for jobs. For health services, most rural folk in eastern MP rely on Gondia and Nagpur, but hospitals there are full,” says Gaurav Singh Pardhi, a social worker from Ansera village in Waraseoni.

The government’s strategy in the rural areas is four-pronged: identification of cases, controlling the spread of infection, creating public awareness and providing treatment. To identify potential cases, ‘rozgar sahayaks’, ASHA workers and panchayat officials have been asked to keep tabs on new arrivals, be it pilgrims returning from the Kumbh Mela in Uttarakhand or migrant workers.

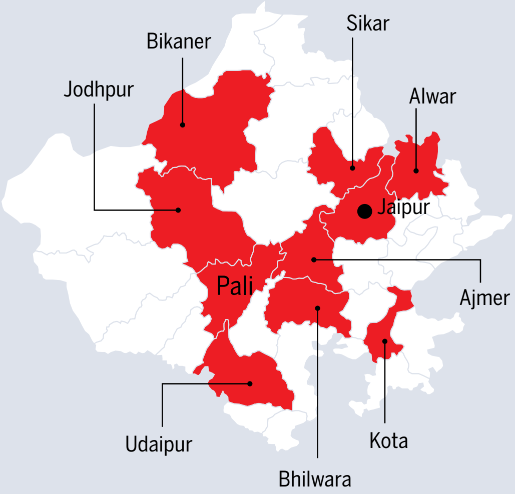
Around 48,000 arrivals were recorded in villages between April 5 and 25. Those with symptoms are to be isolated at home or in any of the 20,500-odd village quarantine centres across the state. A medicine kit, with basic antibiotics, paracetamol and vitamins, is provided through the health department to Covid patients and those with influenza-like symptoms.

“Our primary objective is to contain the spread of Covid. All districts have set up ‘rapid response teams’, which have to be informed in case anyone develops symptoms that require hospitalisation. We have authorised the use of panchayat funds to buy protective gear and arrange for food and essentials at the quarantine centres,” says Umakant Umrao, principal secretary, rural development. Around 90 per cent of the panchayats, claims Umrao, are observing the ‘janata curfew’ and have barred the entry of visitors. ■

Rahul Noronha

ROHIT JAIN PARAS

A SHOT AT SAFETY
A Covid vaccination drive in Mandalpur village, Bhilwara district



● *Districts with steep rise in cases*

RURAL POPULATION (% OF TOTAL)

43.3 mn (63%)

RURAL OXYGEN BEDS

2,850

> “AROUND **40 PER CENT** OF THE TOTAL CASES IN RAJASTHAN ARE BEING REPORTED **FROM THE RURAL AREAS**”
>
> **SIDDHARTH MAHAJAN**
> *Secretary, Medical Health and Family Welfare*

RAJASTHAN

The second wave of Covid-19 is fast engulfing the interiors of Rajasthan. Siddharth Mahajan, secretary, medical health and family welfare, says about 40 per cent of the total cases are being reported from the rural areas. Officials are concerned that tier 2/3 districts are reporting a higher number of cases than last year. On April 26, Jaisalmer, a thinly populated district, reported 176 new cases. The total active cases in the district stood at 1,251 that day—nearly one-third of the 3,554 cases reported there since Covid struck last year. Only 11 of the 59 oxygen beds in the district were available on April 26.

While 30 of the 33 districts have been reporting over 100 cases each day, the numbers are rising by hundreds in many districts. On April 26, Jaipur district reported 2,878 cases, Jodhpur 1,711, Kota 955, Udaipur 668 and Ajmer 660. Only Dholpur, Jhunjhunu and Sirohi narrowly missed the 100 mark. Serious infections are also rising—in Rajsamand (601 new cases), all 32 ventilators were in use on April 26. All five ICU beds in Pratapgarh (139 cases) were full and only 12 of the 118 oxygen beds were available. Sirohi reported 89 cases, but only 19 of its 211 oxygen beds were vacant. None of the 109 ICU beds in Bhilwara (701 cases) was available. All 27 ventilators in Churu (179 cases) were assigned to patients.

Rajasthan is geographically India’s largest state, which compounds the challenges of extending medical help, including oxygen and vital drugs like Remdesivir, to the remote corners. One of the reasons cited for the rural surge is the heavy tourist footfall in the first quarter of 2021. The other reason is trade connections with states like Maharashtra and Gujarat, which witnessed a big spike in cases, and the movement of migrant workers.

There is fear that oxygen beds and ventilators may run out unless cases drop and the recovery rate improves. Against 16,438 new cases reported on April 26, there have only been 6,416 recoveries, which indicates that it may take several weeks before recoveries outnumber fresh cases. Almost 90 per cent of oxygen, ICU and ventilator beds are occupied in most towns even as the spike in cases extends to new territory. ■

Rohit Parihar

MAHARASHTRA

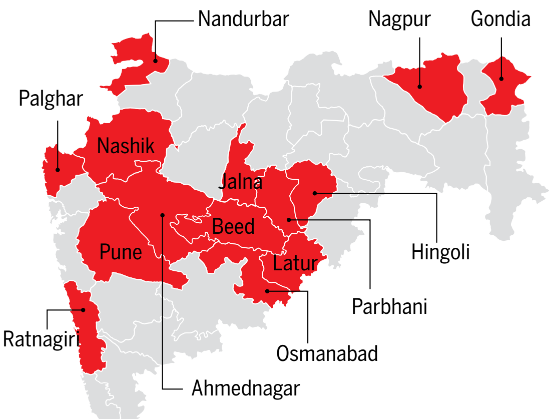
Of the 361 samples that the National Institute of Virology, Pune, collected in the state for genome sequencing between February and March, more than 50 per cent of the samples from nine districts had the double mutant or the B.1.617 strain of the virus. The data suggests it originated in Akola and Thane, though the state health department believes it exploded in Amravati around end-February when 4,000-odd weddings took place.

Whether in Amravati or Akola, Covid 2.0 does have its roots in rural Maharashtra. Blame it on the panchayat polls, the unlocking of the economy, public laxity in following Covid protocol or the government’s ineptitude, but there is no question about the virulence of the current surge of infections.

If Maharashtra recorded 2,052,905 cases in the 11 months of the first wave between March 9, 2020 and February 11, 2021, the state has seen 2,174,654 new cases in just 72 days of the second wave, between February 12 and April 25, 2021. A weekly report by the Maharashtra health department on April 26 shows that the positivity rate in rural areas is higher than in urban

AP

OUT OF BREATH
A Covid patient at the Nashik hospital where oxygen supply leaked



● *Districts with steep rise in cases*

RURAL POPULATION (% OF TOTAL)

78.6 mn (70%)

RURAL OXYGEN BEDS

43,720

(Includes Tier 2/3 towns)

areas. While the weekly positivity rate for Maharashtra was 25.17 per cent between April 11 and 17, 14 rural districts—Jalna, Beed, Nandurbar, Nashik, Latur, Gondia, Parbhani, Hingoli, Osmanabad, Pune, Nagpur, Ahmednagar, Palghar and Ratnagiri—had a higher positivity rate. Osmanabad led with a 39.25 per cent positivity rate, followed by Parbhani (36.8 per cent) and Hingoli (36.7 per cent).

Needless to say, the state's health infrastructure has collapsed. The state government is struggling to provide oxygen and Remdesivir in the countryside. A senior official with the health department, however, says that it's beds, not Remdesivir, that the state needs most urgently. In Hingoli, patients' kin begged doctors to let them share beds. "It is against all health norms, but we're helpless," says a doctor with the district civil hospital, on condition of anonymity. Dr T.P. Lahane, the director of medical education, says the state has increased the number of isolation beds from 350,000 six months ago to 392,000 now. "The medical colleges plan to add 250 ventilators in a couple of weeks," he adds. Yet, on April 22, 12 districts had run out of isolation beds, nine had no ICU beds and six reported ventilator shortage. ■

Kiran D. Tare

WEST BENGAL

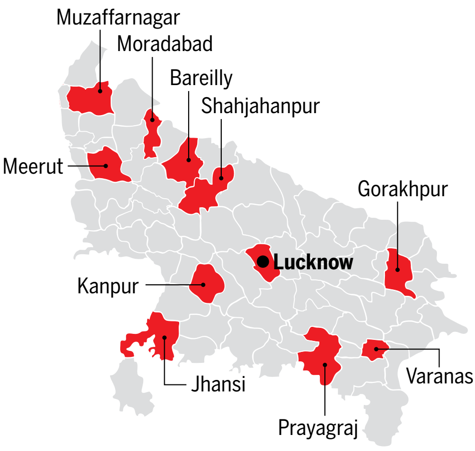
"In our panchayat, only two families got tested for Covid-19 although almost every household has people suffering from fever, cough and cold," says Chandana Mondal, a resident of Piyali town in South 24 Parganas.

Many people in West Bengal's hinterlands are not getting tested for Covid-19 for fear of a positive result. Instead, they are self-medicating with over the counter pills for fever and diarrhoea, and visiting general practitioners, homeopaths and even quacks.

Little wonder then that West Bengal is among the 12 states showing an upward trajectory of daily Covid-19 infections. The state had 94,949 active cases as on April 26, of which the bulk were reported from capital Kolkata, the North 24 Parganas and South 24 Parganas.

The spurt in cases in North 24 Parganas has come in the wake of the three phases of the assembly election held between April 16 and 26. Malda and Murshidabad, where the last stage of the eight-phase election is

UTTAR PRADESH



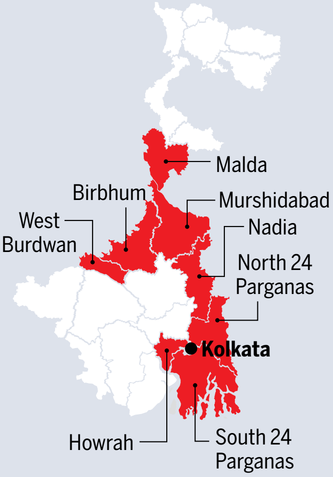
● *Districts with steep rise in cases*

RURAL POPULATION (% OF TOTAL)

152 mn (77%)

AFP

UNMASKED Police in Siliguri detain those flouting Covid rules



● *Districts with steep rise in cases*

RURAL POPULATION (% OF TOTAL)

62 mn (68%)

RURAL OXYGEN BEDS

700

(rural and sub-divisional hospitals)

> “DISTRICT HOSPITALS AND BLOCK LEVEL PRIMARY CARE CENTRES CAN AT BEST HANDLE DIARRHOEA AND FLU CASES. THEY **LACK BASIC EQUIPMENT LIKE OXYGEN CYLINDERS**”
>
> **DR MANAS GUMTA**
>
> *General Secretary, Association of Health Service Doctors*

being held, are the other two districts showing a steep rise in Covid cases. It’s not just the polls: Bengal’s districts have also been celebrating the Gajan and Charak festivals this past fortnight, with thousands of rural folk attending local fairs, with no time for masks or social distancing.

Pointing to how different things are this time, a senior government doctor in Malda says, “Despite the return of migrants, the viral load in the districts was negligible last time. However, the election campaigns and rallies this time have hit the districts badly.”

As expected, the rickety rural health infrastructure is proving utterly incapable of handling the surge. In North 24 Parganas, of the 623 beds in government hospitals, 480 are currently occupied and the district administration is scouting for other premises, such as stadiums, community centres and marriage reception halls, to set up new facilities. “All sub-divisional hospitals in the districts are full,” reveals an official of the health department, on condition of anonymity.

The health department has formed a six-member apex task force to monitor the situation and ramp up the healthcare infrastructure. According to Dr Manas Gumta, general secretary, Association of Health Service Doctors, district hospitals and block level primary care centres are at best equipped to handle cases of diarrhoea and flu. They may have the space to accommodate a hundred patients, but they lack basic equipment like oxygen cylinders. “We have to make these centres ready to treat critical patients by creating ICUs and HDUs,” he says. “Critical Covid patients require high-flow oxygen, bi-pap and ventilation, and there’s a severe shortage of these facilities in district hospitals.” ■

Romita Datta

MANEESH AGNIHOTRI

SURVIVAL WAR Rush at a medical oxygen supplier in Lucknow

RURAL OXYGEN BEDS

5,000

The panchayat polls, from April 15 to 29, may well have turned into a Corona spreader in rural Uttar Pradesh. Disregard for Covid protocols during the campaign, coupled with the arrival of migrants from other states to vote, has led to a spike in cases. Health department data shows that about 29 per cent of the 170,059 active cases on April 17 were reported from the 18 districts that voted in the first phase on April 15. On April 13, these districts had accounted for 21.3 per cent of active cases. On the same day, 716 new cases emerged in Kanpur Nagar, which voted in the first phase. On April 19, the second voting phase, 1,365 cases were reported. New cases in Hardoi rose from 56 on April 13 to 265 on April 19, and in Gautam Buddh Nagar from 402 on April 17 to 970 on April 24.

“Migrants who came from Maharashtra, Gujarat and Delhi may have been Covid carriers. Some candidates with Covid symptoms refused to isolate themselves,” says Dr Ramesh Chandra, medical officer, Purva community health centre, Unnao.

Sushila Devi, an Independent candidate for the pradhan’s post at Belhari panchayat in Gonda district, tested Covid positive and died on April 11. The death of two candidates deferred polling in the Lalganj and Atwa Mohal gram panchayats in Unnao. Priyanka Sen, a Samajwadi Party candidate for the zilla panchayat in Ayodhya district, died of Covid on April 18.

“In districts with high infections, chief medical officers have been asked to arrange for more hospital beds,” says Dr D.S. Negi, director general (health), UP. ■

Ashish Misra

COVER STORY

COVID 19 | VACCINE

VACCINE VAGARIES

THE NATIONAL VACCINATION DRIVE FACES SUPPLY, DISTRIBUTION AND PRICING HURDLES

BY AMARNATH K. MENON and P.B. JAYAKUMAR

A LONG WAIT People queue up to get Covid vaccine shots at an indoor stadium in Guwahati, April 23

DAVID TALUKDAR/NURPHOTO

B

Beginning May 1, the Great Indian Vaccine Rollout will now cover millions of people in the 18-44 age bracket across the country in the inoculation drive against Covid-19. Except that the numbers are humongous and will be a lot more challenging than holding a general election or even taking a citizens' headcount in the decadal Census. When it was launched on January 16, the phased rollout of the programme was in sync with the availability of Covid vaccines in the country. The first priority was the healthcare and frontline workers dealing with the pandemic. Then it was the turn of those above 60 years where mortality rates were the highest for the virus. So far, so good. The nation could easily meet the demand as vaccine hesitancy saw only half the numbers of the eligible group enrol. The ready availability of vaccine stocks also meant that India could export 65 million doses to needy nations.

Things began to go awry in late March when the government lowered the age for vaccine eligibility to 45 years and above from April 1 and demand began outstripping supply. Central government officials defended themselves by pointing out that India had vaccinated over 143 million people, and while it was not the largest number (the US and China have inoculated more), it was still the fastest in terms of the number of days taken. What those figures masked was the uncomfortable fact that they covered barely 1.5 per cent of the population. Of those reckoned as most vulnerable (above 60), only 50 per cent of an estimated 120 million have been vaccinated so far, including 9.3 million who had also received the second dose by April 27. Some 60 million senior citizens remain to be covered even as, from April 1, another 200 million of those 45 years and above joined the queue for the vaccine.

What sent matters into a tailspin was the second Covid wave which hit the country at around the same time. The ferocity of the virus attack unnerved both the central and state governments, upsetting their leisurely paced vaccination programme. As a medi-

1,878

MILLION DOSES

What India needs to vaccinate approximately 939 million adults

2.2

MILLION DOSES

At this current rate of vaccination per day, India will cover about 30 per cent of its population by end-2021

₹35,000

CRORE

Budget 2020-21 outlay for Covid vaccinations, or about Rs 186 per dose to cover the entire eligible population. The Centre pays Rs 150 per dose for Covishield

TOP SHOTS

Though India's overall jab number–143 million–is high, in terms of the percentage of population covered, the national vaccine rollout ranks at the bottom of the table

COUNTRY	DOSES GIVEN	FULLY VACCINATED	% OF POPULATION FULLY VACCINATED
India	143 M	22.6 M	1.7%
US	231 M	95.9 M	29.2%
China	229 M	-	-
UK	46.7 M	12.9 M	19.4%
Brazil	39 M	11.6 M	5.5%
Germany	25.9 M	6.04 M	7.3%
Turkey	21.4 M	8.11 M	9.9%
France	19.6 M	5.54 M	8.3%
Indonesia	18.8 M	7 M	2.6%
Russia	18.3 M	6.87 M	4.8%

Note: where two-dose vaccines are being used, the number of fully vaccinated people will be lower

cal emergency engulfed the country, the Narendra Modi government came in for stringent criticism from the Opposition, not only for claiming a premature victory over the pandemic but also for not ramping up its vaccination programme fast enough and playing to the international gallery by exporting vaccines that could have been used to protect its own citizens.

Faced with mounting criticism over the handling of the second wave, Prime Minister Modi, as he tends to do in the face of adversity, decided to radically alter India's vaccination programme. He announced that from May 1, those above 18, too, would be eligible for the vaccine. The numbers to be vaccinated shot up to 900 million almost overnight. Given that each person needs two doses of the vaccine for full immunity, this means the country needs 1.8 billion doses. With the current monthly production of the two Indian vaccine manufacturers pegged at 110 million doses a month, it would take a year and a half to fully vaccinate every citizen above 18 years. Clearly, an unsatisfactory situation was at hand, given the resilience of the pandemic and the successive waves of infections it could cause. So, Modi made some more dramatic announcements to boost production and delivery of the vaccines. But even these raised more questions than answers.

OVERCOMING THE SHORTAGE

To boost vaccine production, the Modi government decided it would not only help the two domestic manufacturers, but also open the sector to imports from foreign manufacturers, including clearing a third vaccine, the Russian-made Sputnik V, for import and distribution. For the two Indian vaccine manufacturers, Serum Institute of India (SII) and Bharat Biotech, who make Covishield and Covaxin respectively, the government sanctioned grants totalling a little over Rs 4,500 crore, to expand capacities. SII is to raise its share from 70 million to 100 million doses by July while Bharat Biotech needs to take it from 30 million to 58 million doses by August. The repayment of these grants is linked with the two companies selling a fixed amount of doses at a low cost to the Centre.

But even beefing up production from 110 million doses to 158 million a month in four months is still far from adequate considering the demand. To cope with the vaccine crunch, state-owned facilities such as Indian Immunologicals Ltd, Bharat Immunologicals Ltd and the Haffkine Institute will supply another 50 million doses of Covaxin a month from August. Meanwhile, Dr Reddy's Laboratories, which has exclusive marketing and distribution rights for the first 250 million doses of Russia's Sputnik V vaccines in India, is to import finished vaccines from wherever production is going on, once the price is fixed. The availability, therefore, is likely to be upwards of 225 million doses a month from August. The current calculations are that everyone eligible might be able to get the first dose by mid-October and the second dose by January-end if there are no hiccups in production and distribution. But these are still just estimates and there could be delays. "While the current Covid vaccines are helpful, they are not capable of preventing those vaccinated from being infected (to a lesser degree) nor do they block further transmission. Therefore, it is crucial to get the vast majority vaccinated as quickly as possible," cautions Dr Jayaprakash Muliyil, renowned epidemiologist and chairperson of the scientific advisory committee of the National Institute of Epidemiology.

The hopes are now pinned on some new domestic vaccines in the pipeline and the options in the global market that could be imported to overcome the vaccine crunch (see *Emerging Options*). The Zycov-D DNA vaccine from Ahmedabad-based Zydus Cadila began phase III trials in January and is likely to be launched by June. A fully indigenous plasmid DNA vaccine, Zycov-D will be produced in small quantities in mid-May. Zydus Cadila plans to produce up to 240 million doses a year,

VACCINE OUT OF STOCK
VACCINE OUT OF STOCK
COVISHIED OUT O STO
O COVID-19 ION CENTRE LPLINE
57096779

BETTER LUCK TOMORROW
'Out of stock' signs at a Covid vaccination centre in Mumbai, Apr. 20

RAFIQ MAQBOOL/ AP

which will include 120 million doses of inhouse production and the rest made by a couple of contract manufacturing companies. Hyderabad-based biotech manufacturer Biological E's Covid-19 vaccine, BECOV2, is also in the final phase of trials and is likely to hit the market in less than four months. The company is ramping up capacities to produce about one billion doses a year of this vaccine, according to managing director Mahima Datla.

DISTRIBUTION CHALLENGES

Under the Liberalised Pricing and Accelerated National Covid-19 Vaccination Strategy, starting May 1, domestic vaccine-makers will be free to sell 50 per cent of their production to the states and private facilities. The other half will go to the Centre, which has stated it would fulfil its commitment of vaccinating all those above 45 free of cost. States are now free to decide how they would like to implement the programme for other age groups as well. Countering charges that the Modi government had abdicated its responsibility by announcing the modified vaccination programme, Dr V.K. Paul, NITI Aayog member and co-chair of the National Expert Group on Vaccine Administration (NEGVAC), said, "For the Centre, the vaccination programme will remain a core responsibility. We will continue to be a major player, improving the efficiencies of the systems we have built and making it available to the states who can align with and add to it, while also giving them flexibility to take decisions."

However, a comprehensive roadmap for the vaccine rollout, factoring in manufacturing sites, distribution points and last-mile health utilities, and ensuring that there is minimal wastage and the vaccine is stored at the right temperatures in cold chains, is still in the works. In the absence of such a blueprint, vaccine-makers are apprehensive the blame for the impending acute vaccine shortage will be placed at their door.

The Centre has allowed decentralisation of distribution, enabling states to buy and vaccinate their people while individuals can pay to get vaccinated

100

MILLION DOSES PER MONTH

Serum Institute of India's (SII's) monthly production capacity by July, per its proposed production ramp up plan. Bharat Biotech is to step up production to 58 million doses per month by August

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₹3,000

CRORE

The additional budget sanctioned for SII to increase production capacity, with Bharat Biotech given Rs 1,500 crore to do the same at private health utilities. “The scale is unprecedented. To be successful, we have to operate in war mode, get all stakeholders to work together,” emphasises G.V. Prasad, co-chairman and managing director, Dr Reddy’s Laboratories. “Greater availability of vaccines throughout the country, a greater number of vaccination points and trained people to administer the vaccines, all this will be very important in this mission to inoculate the entire adult population of the country.”

Public health experts argue that planning and controlling the flow to the vaccination centres will pose a greater challenge than the vaccinating costs (which will largely be shared by the Centre and the states). Entities vaccinating at private health utilities for a higher price can buy about 10 per cent of the doses. The tweaked vaccination strategy shifts the burden of vaccinating the young population (18-44 years) to the states. However, there is as yet no inkling as to what proportion of the vaccines will be made available to individual states and when. Time schedules will be crucial to ensure efficient supply and distribution. The scramble has begun. A few states like Uttar Pradesh, Bihar, Chhattisgarh, West Bengal, Kerala, Tamil Nadu, Andhra Pradesh, Telangana and Goa have announced free vaccination for all in the 18-44 group at state-run facilities.

PRICING PROBLEMS

A vexatious issue is sharing costs. The cost of vaccinating the adult population is estimated at Rs 60,000 crore. Whether the Centre will bear the entire cost, as it had intended earlier, is unclear. Union finance minister Nirmala Sitharaman has set aside Rs 35,000 crore towards vaccination in the 2021-22 budget with an assurance that it can be increased. The states, while announcing that vaccinations will be free for large sections of residents, are expecting to be reimbursed by the Union government. Several chief ministers are eager that the Centre pays for the vaccines, given their own limited resources for health allocations.

Analysts say the opening up of vaccine purchases to the states coupled with differential pricing appears to be a political ploy by the Centre to shift the blame for the inevitable lapses in implementation. Former health administrators say a coordinated inter-state mechanism, on the lines of the GST Council, to track and ensure apportioning of vaccines among states depending on the severity of the pandemic is needed. It also has to take into account factors such as the states being short on money. While the states fund procurement from their own budgets, bridge funding from the Centre is essential. In its absence, the states with clout or ability to pressure vaccine-makers will divert allocations to create anarchic conditions as has happened in recent days with the supply of medical oxygen. Several states are also staring at a staff crunch ahead of the massive vaccination drive. Plans to rope in medical graduates, nursing students, staff from government/ private hospitals and paramedics are being considered.

Further compounding the issue, while announcing that it will lift half the supply of vaccines at Rs 150 per dose, the Centre has allowed SII to sell at Rs 300 a dose to the states and Rs 600 in the open market; Bharat Biotech’s rates are Rs 600 and Rs 1,200 respectively. People opting to take their shots at private health utilities will pay more to cover the service costs. Until now, government facilities had provided vaccines free of cost while private ones were allowed to charge no more than Rs 250 per dose. Critics of the current policy point out that many countries do not use the private market for vaccines and provide them free of cost to all in the context of combating a pandemic and as part of the national programme for immunisation. India, Pakistan, Nepal and Thailand are among the few that have allowed vaccine-makers to sell in the private market.

For vaccine-makers, differential pricing is justified considering they invest large amounts of money in R&D. There is also logic in incentivising manufacturers to invest more capital in what is seen as a long and arduous battle against Covid-19. Moreover, the cost of production is roughly estimated to be Rs 300 per vial and companies are looking at a mark-up ranging between 25 and 30 per cent over and above the cost. But with a pandemic hanging over our heads, vaccine-makers may be perceived as making a killing. Altering that perception is a daunting prospect given the all-round Covid distress but only a fair pricing mechanism can further the larger goal of vaccinating everyone within a year. Public interest groups have asked questions as to why the tax-paying public should bear the high prices of vaccines when their money is being used to beef up vaccine producers.

> “THE VACCINATION PROGRAMME IS **A CORE RESPONSIBILITY** FOR THE CENTRE. WE’LL KEEP IMPROVING EFFICIENCIES OF OUR SYSTEMS”
>
> **DR V.K. PAUL**
> *NITI Aayog Member, Co-chair of NEGVAC*

On their part, SII and Bharat Biotech say their prices are the lowest in the world. Adar Poonawalla, CEO of SII, points out that government procurement for countrywide immunisation programmes in all countries including India is at a far lower price as the volumes are very large. “Covishield is currently the most affordable vaccine in the global vaccine market,” he says, adding that prices are based on advance funding given by the countries for at-risk vaccine manufacturing. Bharat Biotech managing director Krishna Ella says Covaxin is inactivated and highly purified making the manufacturing process expensive due to very low process yields. “All costs towards product development, manufacturing facilities and clinical trials came primarily from internal

COVID-19 VACCINATION
WELCOMES

MUSICAL CHAIRS An empty BKC vaccination camp in Mumbai after stocks ran out, Apr. 28

MANDAR DEODHAR

250

MILLION DOSES

Dr Reddy's Laboratories is to import the first 250 million doses of Russia's Sputnik V vaccine beginning May. By July or August, production of over 850 million doses (including those for exports) of the vaccine is expected to begin at five biotech companies

funding and company resources," he says. Industry sources say the candidate vaccines to arrive in the coming months will cost more than Rs 700 and that the frontrunners, SII and Bharat Biotech, may not have done the right thing by offering it initially at Rs 150.

Given the public health emergency, several countries, including the United States, UK, Japan, France and China, are providing vaccines free to all citizens. No country has opted for open market sale of Covid-19 vaccines as yet, because they are still under restricted or emergency use permissions and have not yet been fully licensed in their countries of origin. The slogan of free vaccination for all is gaining currency even though it would be equitable only if those who can afford to pay for their doses opt to do so. The fact is that vaccine prices are not homogeneous but vary depending on assured volumes, upfront payment, duration of the contract, bundling with other products, discounts and rebates. The US, UK and the EU made huge upfront payments and purchase commitments to international vaccine-makers and got lower prices as a result. India failed to do so initially and is paying the price. Meanwhile, availability of vaccines is going to be a major bottleneck. On April 28, when the CoWin platform was opened for the 18-44 age bracket, over 12 million registered but most were not able to get date and time slots for their jabs. Experts argue that a national vaccination strategy to step up coverage swiftly is now essential to prevent the programme from descending into chaos. ■

EMERGING OPTIONS

The World Health Organization (WHO) data on 'Landscape of candidate vaccines in clinical development' says that 91 Covid vaccines are in clinical phase of development. While 11 of these vaccines have already reached the market, at least 17 new ones are in final stage of trials globally, including three from India.

If the Johnson and Johnson, Moderna and Pfizer-BioNTech vaccines in the market are already pre-booked by developed nations and are unavailable for import, there are other options. The major US-European vaccines in final clinical trial stages include German biopharmaceutical company CureVac's mRNA-based vaccine candidate CVnCov, US biotech firm Inovio's DNA vaccine, a protein subunit vaccine from Sanofi-Pasteur and GSK, and a similar vaccine from the Clover Biopharma-GSK-Dynavax combine. Besides this, a consortium of three biotech companies in Europe—ReiThera, Leukocare and Univercells—have a vaccine with a de-activated virus, Canadian biotech firm Medicago Inc has a virus-like particle-derived vaccine and Ireland-based Vaxxinity has a protein subunit platform vaccine, all nearing final stages of trials.

Other nations are also close to launching their own vaccines. In Japan, an Osaka University, Takara Bio and AnGes alliance is developing a DNA vaccine. Cuba has two vaccines in Phase III stage—a protein subunit vaccine from Instituto Finlay de Vacunas and a CIGB-66 (RBD+aluminium hydroxide) vaccine being developed by its Centre for Genetic Engineering and Biotechnology (CIGB). Iran's Shifapharmed Industrial Company has an inactivated virus vaccine in final Phase 2/3 stage. The EpiVac-Corona vaccine by Russia's Vector Institute and QazCOVID-in by Kazakhstan's Research Institute for Biological Safety Problems are also in final Phase III trials. Australia has a protein subunit vaccine in final stages, developed by pharma giant CSL with Seqirus and the University of Queensland. The last option for India are Chinese vaccines—at least five of them are already in the market—from Sinopharm (2 vaccines), Sinovac, Cansino and Anhui Zhifei.

OPERATION WITH HIGH % OF THREAD ENDS
OPERATION WITH HIGH % OF THREAD ENDS
LINE-03
TARGET
EFF%
OUTPUT

WHAT'S ESSENTIAL? Workers at Matrix Clothing Factory in Gurugram, Haryana, in February 2021

CHANDRADEEP KUMAR

COVER STORY

COVID 19 | MSMEs

BACK TO THE WALL

INDIA'S 63.4 MILLION MSMEs, ALREADY BATTLING LOW DEMAND, ARE ON THE BRINK OF FORCED SHUTDOWNS THANKS TO A SECOND LABOUR EXODUS, HIGH COST OF INPUTS AND LOAN-REPAYMENT BLUES

BY M.G. ARUN & ANILESH S. MAHAJAN

63.4
MILLION
Total MSMEs in India

45
PER CENT
Share of MSMEs in India's manufacturing output

120
MILLION
People MSMEs employ in India

THE CONCERN IN PRAKASH PADIKKAL'S VOICE is quite palpable. Padikkal, 65, owns Havistha Steel, a company in Navi Mumbai that makes equipment and storage tanks for the chemicals, food and pharmaceutical sectors. Classified as an essential business, Padikkal is allowed to keep work going, exempted from the restrictions in place in Maharashtra, which were just extended from May 1 until May 15. Nonetheless, he says he faces a financial squeeze, with low demand because of various Covid-19 lockdowns across India on the one side and rising input costs on the other. He says prices of one input—mild steel—have shot up from near Rs 40 a kg to about Rs 85 a kg, and that he is stuck with the loss since many of his contracts use fixed prices.

Padikkal's plight is the norm for the owners of MSMEs (micro, small and medium enterprises) in the states impacted most by Covid 2.0, including Maharashtra. These states have announced increasingly tight restrictions following the latest wave of cases, and on April 26, the Centre advised the states to implement even stricter movement bans and to prevent the opening of shops and marketplaces for the next two weeks. Although Prime Minister Narendra Modi, in a televised address on April 20, said that lockdowns should be the last resort, authorities don't have too many options. Karnataka has imposed a two-week curfew starting April 27, only permitting the sale of essential goods, and that too, from 6 am to 10 am. Delhi went into a week-long curfew the evening of April 19, which was then extended another week. Many other cities, such as Bhopal and Indore, also have curfews in place to contain the spread of the virus.

DIRE STRAITS

In Maharashtra, which contributes 15 per cent to the country's GDP, industries that deal with essential goods or have export commitments have been exempted from some restrictions. The state also seems to have taken a lenient view to enforcement, allowing many MSMEs to operate as long as they prevent overcrowding and do not need large numbers of workers to be ferried around regularly. (As per the MSME ministry's 2020-21 annual report, Maharashtra has 4.7 million MSMEs.)

Nonetheless, industry leaders highlight serious business woes. "The problem is that no one is operating anywhere near optimum capacity," says S. Jaya Prasad, who runs a metals business in Thane. In states such as Punjab, MSMEs are struggling to remain open as workers flee to their home states, fearing that major lockdowns are to come. In Surat, Gujarat's textile hub, powerloom operators say production has taken a 40 per cent hit as international demand falls and migrant workers from Uttar Pradesh, Bihar, Odisha and Andhra Pradesh return to their home states. "Workers fear a national lockdown after the West Bengal election," says Dharmesh Kachiwala, owner of J.P. Kachiwala Textiles, a supplier to larger garment makers who export to retailers such as the UK's Marks & Spencer. He says the garments business had just begun to return to normal after a lacklustre Diwali, with online sales picking up, when the new wave of Covid cases hit India. He adds that overseas orders have fallen again, by 30 per cent.

The MSME sector is often described as the backbone of Indian manufacturing, but it remains the most vulnerable to business shocks. The Confederation of Indian Industry (CII) estimates that India has about 63.4 million MSMEs, accounting for 33.4 per cent of manufacturing output, 45 per cent of exports and employing about 120 million. The sector was severely impacted by last year's lockdown—one of the most severe anywhere in the world—with one survey by the All India Manufacturers' Organisation finding as many as 35 per cent of MSMEs and 37 per cent self-employed individuals saying they had to close their businesses as a result. Surprisingly, the Centre continues to say it has no data on the number of MSMEs that were shuttered by its Covid-19 lockdown.

LABOUR WOES

Punjab and Haryana together have about 18 million MSMEs, offering permanent and casual/ contract jobs to an estimated 5 million. Both states have seen an exodus of workers. Punjab's industrial towns, like Ludhiana, Jalandhar, Amritsar and Mohali, and Haryana's Ambala, Karnal, Faridabad, Gurugram and Sonepat are witnessing big crowds at bus terminuses and railway stations. The situation is similar in the industrial areas of Uttarakhand's Haridwar and Dehradun, where the state government has already enforced a curfew for the past week. "We are trying our best to [convince] our workers [not to travel home], to motivate them and get them vaccinated," says Bhavdeep Sardana, president of the CII's Punjab chapter. Many migrant workers say they fear being trapped in cities if anything on the scale of last year's lockdowns happens again. "Today, the trains are running and so are the buses," says Radhe Shyam Sinha, a migrant worker from Bihar, who works in a textile factory in Ludhiana. "But the government can announce a lockdown at any time. We will again be trapped. I don't want to be at the mercy of the government or my employer."

State-level business leaders like Vinod Thapar, chairman of the Ludhiana Knitwear Club, point out that night curfews in Punjab are already affecting sales, with malls and shopping complexes required to down shutters by 6 pm. These interruptions in the business of large firms are also impacting smaller units in the supply chain. The country's largest two-wheeler maker, Hero MotoCorp, on April 20, announced the temporary suspension of manufacturing operations at its factories across many states, including at Haridwar (Uttarakhand), Gurugram and Dharuhera (Haryana), Neemrana (Rajasthan) and Vadodara (Gujarat). Several companies associated with Hero MotoCorp have also announced shutdowns. "Large and medium enterprises can survive a short-term disruption. But smaller entities will have a tough time," says R.K. Bhardwaj, national vice president of Laghu Udyog Bharati. "Many have been wiped out in the past 12 months. The fear now is that many more will go the same way." Punjab is also closing down several steel units to divert oxygen used in industrial plants towards medical use, compounding industrial woes.

RISING NPAs

A key central scheme rolled out last year to help MSMEs was the Emergency Credit Line Guarantee Scheme (ECLGS), under which businesses could take loans underwritten by the government. In March, MSME minister Nitin Gadkari, in a written reply to the Rajya Sabha, said the total funding for this scheme stood at Rs 2.46 lakh crore as of February 28, 2021, with 9.2 million borrowers, of which 8.7 million were MSMEs, at that time.

Experts say this money could have been used more effectively. They say ECLGS funding went mostly to helping MSMEs repay existing debt by lowering their effective rates from the 14-15 per cent of a regular bank loan to about 9.25 per cent, with not much being used as growth capital. They point out that in either case, only about 14 per cent of India's MSMEs have taken ECLGS loans. "MSMEs have not wanted to take more loans when they are unsure of how they will repay them," says Padikkal. He adds that most units are run by single entrepreneurs, many of whom will be unable to deal with the paperwork involved and will therefore avoid taking these loans.

The crisis in the MSME sector is likely to lead to a ballooning of banks' NPAs (non-performing assets or bad loans). Total NPAs stood at Rs 9.4 lakh crore as of June 2019 and, according to former finance secretary Subhash Chandra Garg, the pandemic is likely to see that number increase by an additional Rs 10 lakh crore by the end of this financial year. A Ficci-Indian Banks Association survey conducted among bankers in March this year showed 84 per cent of respondents expected an increase in NPAs from the MSME sector. As of September 2020, about 2.7 million MSME accounts in Maharashtra alone had been declared NPAs by banks. Organisations representing MSMEs, such as FISME (Federation of Indian Micro

ODU LINE
BASE PAN INPUT
COMPRESSOR INSTALLATION
CONDENSOR FIXING

HALF STRENGTH
Bhagwati Industries, an MSME in Bhiwadi, Rajasthan, which makes electronic products for client firms such as Micromax, Acer, Realme and Hyundai

RAJWANT RAWAT

CHALLENGES	SOLUTIONS
↘ The curfews in different states and the lack of clarity on the scope of restrictions on movement of goods	↘ Industry leaders demand clear directives on restrictions from central and state authorities, better coordinated to ensure ease of movement and business
↘ Rising raw material costs, with the price of some kinds of steel doubling in the past year	↘ Monitoring raw material prices would help. Cases of artificially inflated prices could be handled by the Competition Commission
↘ High anti-dumping duties on imported raw materials, making MSMEs totally dependent on domestic suppliers	↘ A rationalisation of import duties, bringing down taxes on key raw materials to zero, and scrapping safeguard and anti-dumping duties
↘ Rigid 'NPA' tagging of loans results in delayed payments being classified as 'bad loans' in 90 days, a major burden for MSMEs	↘ Cutting MSMEs some slack when it comes to repaying bank loans, so that delays in repayment do not automatically tag these loans as NPAs

and Small & Medium Enterprises), say loan support is necessary. "Our member organisations are not asking for money, but want more flexible NPA norms in view of the pandemic," says Anil Bhardwaj, secretary general of FISME. They want the repayment window to be further relaxed to 120 days from the present 90 days, the overdue limit after which a loan becomes an NPA. According to media reports, the Centre is in talks with the RBI (Reserve Bank of India) to consider this.

INPUT SQUEEZE

Another issue industry leaders raise is the rising cost of raw materials. "All major raw material manufacturers have started increasing the prices of iron and steel, copper, aluminium, polymers and plastic raw materials," says Bhardwaj. "They have been revising prices upward almost every week for the past six months." This has squeezed MSMEs, which are generally unable to revise their own payment terms since their contracts typically do not have price escalation clauses.

To add to the problem, Indian MSMEs are sometimes unable to import directly from other suppliers, such as those in China, due to the anti-dumping duties imposed by the Indian government on imports. (As part of the Aatmanirbhar Yojana, India has imposed anti-dumping duties on a range of products from China, including steel, aluminium products and PET, to name a few.) FISME has requested the Centre to review the high prices of raw materials from Indian suppliers, which they say make it unviable to operate.

MSMEs understand only too well the challenge of staying afloat during the pandemic; what most are hoping for is to earn just enough to cover their fixed costs. What they desperately wish to avert is 'man-made disasters' in the shape of cock-eyed policies and insupportable raw material costs. If these are not addressed at the earliest, the crisis in the MSME sector could erupt into a full-blown catastrophe. ■

> "THE MSME SECTOR NEEDS **MORE FLEXIBLE NPA NORMS** IN VIEW OF THE PANDEMIC, **SINCE PAYMENT CYCLES ARE LONGER** AND MARKETS ARE DISRUPTED"
>
> **ANIL BHARDWAJ,**
> *Secretary general, Federation of Indian Micro and Small & Medium Enterprises*

8.7 MILLION
Number of MSMEs that took loans during the pandemic under the Centre's Emergency Credit Line Guarantee Scheme (ECLGS)

2.7 MILLION
MSME accounts in Maharashtra alone were declared NPAs by banks in 2020

SINKING DESERT SHIP

HOOF IT UP
Camels arriving for the famed Pushkar camel fair

The Camel Act was meant to save Rajasthan's state animal. Instead, it has led to dwindling numbers and despairing herders. Can the Gehlot government save the camel?

By Rohit Parihar

DESPERATE EFFORTS ARE ON in Rajasthan to arrest the sharp decline in population of its state animal, the camel. Last month, a cabinet sub-committee made recommendations to end what Arushi Malik, special secretary, animal husbandry, called a "sort of inspector and permit raj" brought on by the Rajasthan Camel (Prohibition of Slaughter and Regulation of Temporary Migration or Export) Act, 2015, which had linked the trade, transport and deaths of camels to their slaughter and criminal prosecution. In a knee-jerk reaction, the then BJP government had given "holy cow status" to the camel, blaming its slaughter for meat as the sole reason for the decline in population over the years. The Ashok Gehlot government is relaxing the provisions of the Camel Act and has roped in the National Research Centre on Camels (NRCC), Bikaner, in a bid to reverse the decline. The sub-committee has suggested half a dozen amendments, including punishment/ restrictions only for slaughter and allowing transport for sale.

The Camel Act has led to a dramatic fall in camel trade at the various cattle fairs. The NRCC itself is witness to this. In 2014, all its 40 camels on auction attracted buyers and the average price was around Rs 30,000. By 2018, 30 of the 50 desert ungulates on offer had no buyers and in 2019, 22 of the 30 remained unsold. The average price has dropped to Rs 3,500; the lowest quote was Rs 2,000. At the Pushkar camel fair, the number of camels sold had fallen from 2000 in 2016 to 800 by 2018. Hanwant Singh Rathore, director of the Sadri-based Lokhit Pashupalak Sansthan, which has been working on camel conservation for many years, says even a decade ago, a good camel could fetch over Rs 70,000; yearlings sometimes went for Rs 15,000.

DROPPING NUMBERS

The National Bureau of Animal Genetic Resources (NBAGR) lists nine dromedary breeds of camel in India, of which five (Bikaneri, Jaisalmeri, Jalori, Marwari and Mewari) originated in Rajasthan. The Mewati can be seen in both Rajasthan and Haryana, the Kutchi and Kharai are Gujarati and the Malvi belongs to Madhya Pradesh. India also has a small population of the double-humped Bactrian camel, found mostly in the Nubra valley in Ladakh.

The decline in Rajasthan's camel population was first recorded in the late 1990s. Between 1998 and 2003, Rajasthan lost a quarter of its camel population, down to 500,000 from a high of 756,000 a decade earlier. By 2012, the numbers were down to 326,000, which fell to 213,000 by 2019. States like Haryana and UP (and to a lesser degree Gujarat) have also shown a big fall in camel numbers after 2012. Now, with just 250,000 camels across India (86 per cent of which are in Rajasthan), a country that once had the third highest population is not even in the top 10 among the 46 countries where camels are found.

As recently as the 1970s, the National Dairy Development Board (NDDB) censuses had put the camel population at 1.1 million in the state. But the arrival of roads, mechanical transport and tractors in the desert reduced the dependence on camels. The Indira Gandhi canal that traverses seven desert districts—Barmer, Bikaner, Churu, Hanumangarh, Jaisalmer, Jodhpur and Sriganganagar—brought in irrigation and a massive increase in farmlands,

Photograhs by PURUSHOTTAM DIWAKAR

OVER THE HUMP
Camel herders with their flock in Ajmer

reducing the open pastures on which the camels survived. The camel is a free-ranging animal, feeding on leaves of trees in forests, pastures or fallow farms. Camel owners in most parts of the desert leave them to roam about freely for eight months a year. Development and restrictions on entry into forests and mangrove swamps (in the Kutch) have greatly reduced the freely available fodder and has made it expensive for camel owners to maintain the animals.

Rajasthan started a Rs 10,000 grant scheme for every camel calf born but it was stopped. Many got only the first tranche, and bribes were involved

MEDICINAL MILK

Camels were never raised as dairy animals—the yield is at most 3-4 litres a day—but now there is a niche market for camel milk and products like chocolate, kulfi, ghee, cheese, skin creams and soaps made out of it. However, except for a few small dairies in the big cities, there is no organised market for camel milk in Rajasthan. The state's dairy federation does not patronise camel milk like the Gujarat Cooperative Milk Marketing Federation (GCMMF), which has a dedicated chilling plant for camel milk. Some 200 families in Kutch make a living selling the milk to the federation, which sells it under the Amul brand name (a 200 ml bottle of camel milk costs Rs 25).

Now, a private venture in Rajasthan, Aadvik Foods from Bikaner, has entered the market by setting up a chilling and pasteurisation plant. They make camel milk powder (which sells for Rs 6,650 a kilo) and other products. Another venture by the Urmul Trust is expected to start its chilling plant in Pokharan soon. Says Rathore of the Lokhit Pashupalak Sansthan, "Our camel dairy, Charisma, sells a 100 litres a day and we pay owners Rs 60 to 70 a litre. The buyers are in Hyderabad and Karnataka, so it costs Rs 400 a litre as we have to transport it frozen, packed in ice boxes." Locally, he sells it for Rs 200. But demand hasn't caught up yet. At times, he has to stop procurement when capacity reaches saturation point. In contrast, Gujarat's cooperatives have succeeded in increasing the shelf life from five days to 180 days, which has opened up markets across India. Dairies there can process a few thousand litres a day and have been successful in building a collection and distribution chain. They offer owners Rs 50 a litre which has largely helped Gujarat check the decline in camel population. If Rajasthan can emulate Gujarat's success, rope in the state's milk brand Saras and do a bit of branding and marketing of camel milk, it would go a long way in helping owners stay invested in the animal.

Camel milk, says NRCC director Dr A. Sahoo, has to be used as a medicine and not as a daily consumable item like other milk. Since it's low fat, it does not clog the arteries and with higher insulin and immunoglobulins similar to that in human beings, it is seen as a better option for Type 2 diabetics, and heart and autism patients. But the NRCC and animal husbandry department cannot do research on the therapeutic value unless the Indian Council for Medical Research (ICMR) gets involved. "To save the camel from extinction, we must diversify its utility. The animal is not just the ship of the desert, it is also a 'ship of medicine'," says the NRCC director.

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VALUABLE BYPRODUCTS

The NRCC is in collaborative research projects with various institutions to find medicinal uses for camel products. With the Bhabha Atomic Research Centre (BARC), it is working on in vivo research with camels to develop single-domain antibodies for treatment of thyroid cancer and tuberculosis in humans. A 'Camelid' anti-snake venom, developed with S.P. Medical College, Bikaner, is nearing production as is another novel camelid anti-venom with Premium Serum in Pune. The latter will be used to treat snake bites by the Echis sochureki (an Indian viper variety).

With Kolkata University, the centre is developing a novel format of stable single antibodies against the Staphylococcus aureus bacterium and allergen specific IgE in allergic asthma. And BITS Pilani is working on the development of lipid-based nanoparticles of Quinapyramine and Isometamidium salt for treatment of the life-threatening trypanosomiasis disease in camels.

But even with all the good work, the decline in camel numbers continues. The NRCC is short on staff and funds. Against the 23 posts of scientists, it has only 10, and there are no biochemists, milk quality evaluators and microbiologists to do basic research. Its budget has stagnated at Rs 12 crore since 2012.

The camel breeders are also in despair. The Rajasthan government, through a central scheme, had started a Rs 10,000 grant scheme (in three instalments) for every camel calf born, but it has been stopped after complaints. Many herders got only the first instalment and Rathore alleges that officials who came to do the survey/tagging would take Rs 1,000 as bribe for each camel. More bribes had to be paid for the release of aid. Animal husbandry secretary Malik, though, says she has started regular medical camps for camels now. The camel breeders had threatened an agitation last November. They had given a list of five recommendations to Gehlot, including ending the camel export ban, promotion of camel milk as a health food and utilising it as part of school midday meals, and for women and TB patients; ensuring free range grazing rights for camels; and promoting Ayurvedic camel milk to tourists visiting Rajasthan.

CAN CAMEL PRODUCTS HELP SAVE THE ANIMAL?

NRCC is partnering with premier institutions to find uses for them; it's also developing drugs to save the animal from diseases

With BARC, it is working on in vivo research with camels to develop single-domain antibodies for treating thyroid cancer and tuberculosis in humans

Production of Camelid anti-venom with S.P. Medical College, Bikaner and with Premium Serum, Pune, commercial scale development of novel camelid anti-venom, used in snake bites by Echis sochureki (an Indian viper variety)

With Kolkata University, the centre is developing stable single antibodies against Staphylococcus aureus and allergen specific IgE in allergic asthma

With BITS Pilani, it is developing lipid-based nanoparticles of Quinapyramine and Isometamidium salt for treatment of life threatening trypanosomiasis in camels

NRCC is working with the National Institute of Fibre Engineering & Technology, Kolkata, to use camel hair with jute. The combination could be a replacement for polythene in making plant grow bags. The dung is rich in fibre and efforts are on to use it to make handmade paper and bricks

DIVERSIFICATION IS KEY

Everyone agrees that the key to arresting the decline is diversification. A number of countries have reversed the trend, with their camel populations now stabilised and even rising. Even in China, where modernisation had led to a decline in its Bactrian camel population, a renewed interest in its hair and wool and the medicinal value of its milk has reversed the trend.

The NRCC is working with the National Institute of Fibre Engineering & Technology, Kolkata, to use camel hair with jute. The combination has better water-holding capacity and could be a replacement for polythene as plant grow bags in nurseries. Camel dung is rich in fibre and options are being explored to make handmade paper and bricks from it. Camel hide is already much sought-after in the leather industry. Also, diluting the norms for transport of camels will renew demand for the animals from states where it is a novelty. Popularising camel races is also a possibility. The NRCC had in 2019 held a camel race demo on its campus.

What is worrying is that camels are finding less use even in what were vanguard roles. The Border Security Force, which had taken over the Indian Army's camels in the 1970s, has become less dependent on them. They were once used extensively for patrolling the desert borders but with the fencing on the international border and new roads, motorcycles and jeeps are preferred now. The force has 470 camels now against a sanctioned strength of 1,052, though officials say they are "planning to buy a few hundred more". The camel contingent is a major attraction in the R-Day parade and other ceremonies, and the brass says it wants to retain it. But even here it has only ornamental value, a shame when even a few decades ago it was such a vital presence on our western borders. ■

THE COVID-19 PANDEMIC HAS CHANGED EDUCATION FOREVER WITH THE DISTINCTIVE RISE OF E-LEARNING WHEREBY TEACHING IS UNDERTAKEN REMOTELY AND ON DIGITAL PLATFORMS.

INNOVATIVE EDUCATOR'S

IT HAS CREATED AN UNPRECEDENTED SITUATION FOR SCHOOLS AND COLLEGES NOT JUST IN INDIA BUT ACROSS THE WORLD. WITH SOCIAL DISTANCING BECOMING THE NEW NORM, PHYSICAL PROXIMITY IN A BRICK-AND-MORTAR CLASSROOM SUDDENLY POSES MORTAL DANGER. SCHOOL/INSTITUTION MANAGEMENTS AND TEACHERS, THEREFORE, ARE SCRAMBLING TO BOARD THE ONLINE BANDWAGON, AND COMPUTERS AND CONNECTIVITY ARE FAST REPLACING DESKS, CHAIRS AND PEN AND PENCIL IN THE EDUCATION LEXICON.

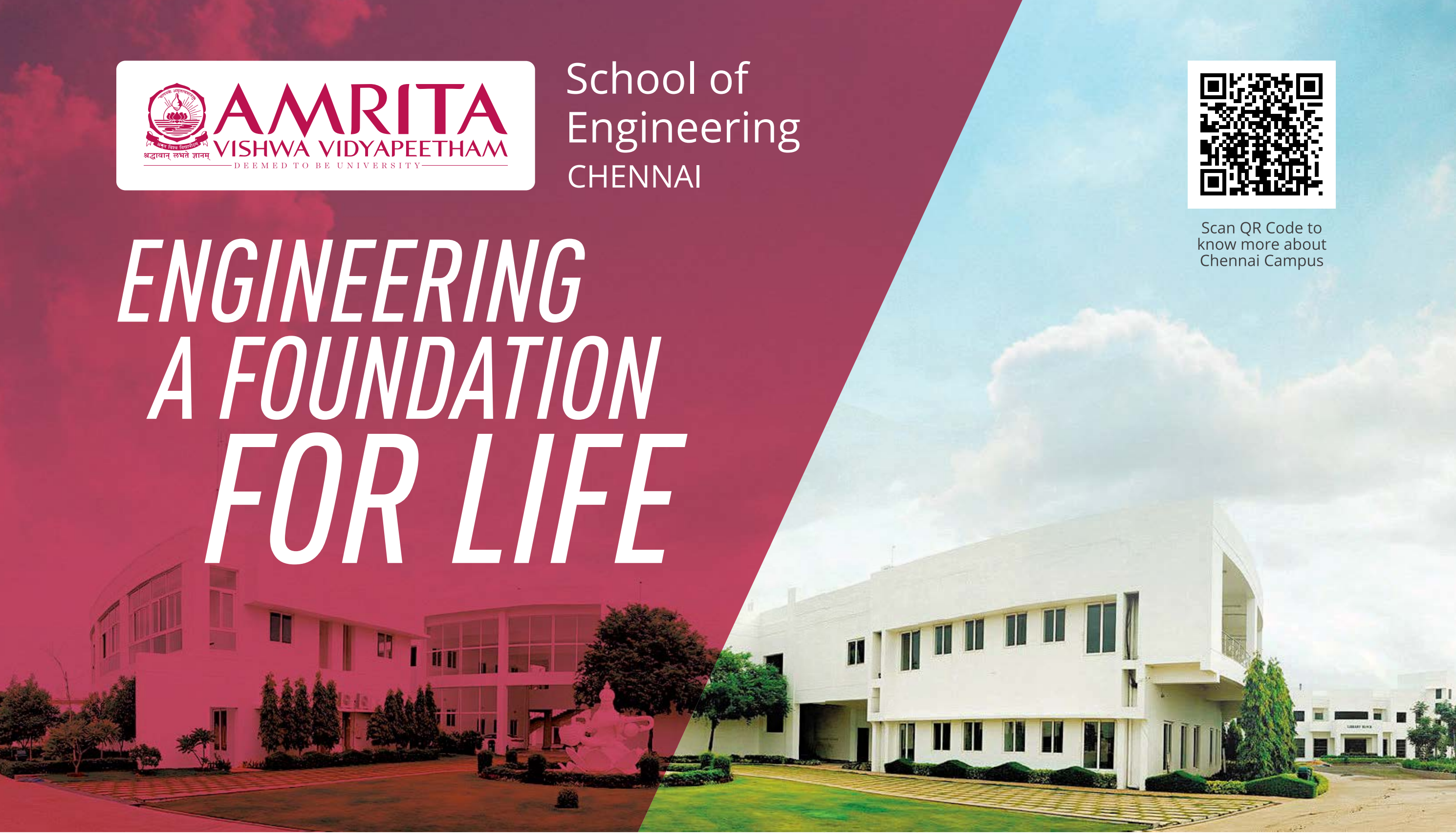
An IMPACT Presentation

THE EXTRAORDINARY AND UNPRECEDENTED CONSEQUENCES OF COVID-19 AND THE PREVENTIVE AND PRECAUTIONARY MEASURES, SUCH AS LOCKDOWNS AND OTHER RESTRICTIONS BY THE REGULATORY AUTHORITIES TO CONTROL THE OUTBREAK, CREATED A NEW SET OF CHALLENGES FOR EDUCATIONAL INSTITUTIONS, ESPECIALLY THE PROFESSIONAL EDUCATION SECTOR.

By Dr. Pankaj Sharma

COVID-19

has forced universities/colleges across India and the world to suspend physical classrooms and shift to online classes. Online Learning Teaching became the default in 2020. While this transition has been smooth for most private universities in India, the public ones are still adapting. Dealing with the unknown, considering the interest of all stakeholders, such as students, faculty members, staff, parents and the recruiters, during the pandemic was really a big challenge in front of all higher education institutions (HEIs). University/college campuses are places where students live and study in close proximity to each other under the umbrella of mentors in the form of faculty, industry experts, etc. The learning



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outside the classroom, especially by participating in or experiencing the vibrant campus life, is amazing and is not possible inside the classroom. Life at the campus makes a student independent, confident and responsible too. During the pandemic, many things got missed out as there was no physical connect or face to face interaction between students and the faculty. But the experience during pandemic opened a world of opportunities for all stakeholders. The scope of online teaching is very wide as faculty from any corner of the globe can interact with students and vice versa. The new concept of technology made the life of students/faculty quite easy and comfortable; the concept of Study From Home (SFH) and Teaching From Home (TFM) brings lot of flexibility and improves the learning teaching process. The faculty that used to teach only in face to face mode is now exposed to online mode, which is quite efficient.

The main goal of educational institutions is to ensure that the quality of education stays the same, even during these kinds of circumstances. To achieve this, most universities have adapted to new methods of content delivery for students and the faculty.

There are basically four major steps, called ADAP, in the entire higher education journey of every student. They are as follows:

A—Admissions
D—Delivery (Teaching)
A—Assessment
P—Placement

In addition, alphabet 'T', which is Technology, makes the word ADAPT, which is the only key available and used by all HEIs to create a healthy environment for all stakeholders.

THE ADMISSIONS JOURNEY—OFFLINE TO ONLINE

During the 1990s, students/ parents used to visit banks not for any financial transaction but to purchase the application form to get admission in HEIs like IIT, etc. The times have changed, starting from the admission process to the final entry into college.

> "The coronavirus pandemic has generated changes in the teaching-learning process in higher education institutions and has influenced the interaction between teachers and students. As a consequence, we were constrained to carry out all the activities with students exclusively online," **says Dr T.R. Paarivendhar, Founder Chancellor, SRM Group of Institutions.**

The significant change is in approach, right from the first step, i.e. admissions. Ten years ago, the admissions process across institutions was only offline, but gradually shifted to the online mode, starting from the filling of the application form online to appearing for the admission test & interview in online mode. But during Covid-19, it was entirely an online process, starting from generating leads to the final entry of students into respective colleges/ courses.

Universities adopted various online modes to reach out to the students and parents. Universities, during the pandemic, conducted a series of online webinars and created a common platform by bringing faculty, experts from industry, alumni, existing students and potential students to interact and discuss, which helped both the universities as well as the students in taking decisions related to choosing the right college and course. This year, universities extended the admissions deadline and students got enough time to explore. The tools used by universities, such as Virtual Campus Tour, have really helped students and parents to understand the infrastructure. The face of universities/colleges on their respective websites provides almost all the information.

TOWARDS A SMOOTH PROGRAMME DELIVERY

The second challenge in front of HEIs is the delivery of programmes in online mode only. Many leading universities shifted to the online mode, but many are still struggling. The challenge is to train both students and faculty members and ensure the availability of Internet, online platforms, etc. The universities getting students from all strata of society faced many challenges in shifting the students to online platforms. Many senior faculty members are not well versed with advanced technology and faced problems in moving to the online teaching mode. The university management faced a lot of internal issues from staff. But finally, each baby step from all stakeholders brought a positive environment for all.

Online education is conducted in two ways. The first is through the use of recorded classes, which, when opened out to the public, are referred to as Massive Open Online Course (MOOCs). The second one is via live online classes conducted as webinars or zoom sessions. Faculty members were giving lectures online (on Google Meet, Zoom, WebEx, etc.) and all are available online during the sessions for students to clear their doubts. The massive task in front of faculty members is of converting the entire curriculum into an online mode. Universities that are strong in industry linkages or are offering programmes in association with companies like IBM, XEBIA, TCS, KPMG, etc., got support from the respective corporate in delivering the content. Apart from that, there are many platforms created to enable online education in India. These are supported by the Ministry of Human Resource Development (MHRD), the National Council of Educational Research and

> "VIT was established with the aim of providing quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. The campus has a cosmopolitan atmosphere, with students from all corners of the globe. Experienced and learned teachers are strongly encouraged to nurture the students. The global standards set at VIT in the field of teaching and research spur us on in our relentless pursuit of excellence,"**says Dr.G.Viswanathan, Chancellor, Vellore Institute of Technology**

HIGHER EDUCATION IN INDIA: CHALLENGES AND OPPORTUNITIES

***Suneel Galgotia,** Chancellor, Galgotias University talks about the future of education in India for Universities and Colleges during the coronavirus crises.*

Q SHOULD WE REALLY CREATE MORE IIT's OR GOVT SHOULD SUPPORT PRIVATE INSTITUTIONS?

I strongly believe that growth in the education sector will improve the economic growth of the nation. Moreover, I believe that creating more IIT's/IIM's/AIIMS will always be beneficial to the people of India but i also feel there is scope to utilise the existing infrastructure and increase capacity in terms of number of seats in already existing campuses.The government is already supporting good private institutions and giving them every opportunity to improve their resources.The government has taken out several initiatives and policies that are good for the education sector and promote quality education and increase employability.

Q WHERE DO YOU SEE INDIAN UNIVERSITIES IN THE NEXT 5 YEARS?

There is no doubt in my mind that Indian universities along with universities across the globe are investing and upgrading their digital infrastructure.The universities across india are going to adopt more of blended learning mode in the delivery of content and dissemination of knowledge. Galgotias University is one of the few universities in India to easily adapt to the digital transformation and use of advanced technology well before time to ensure effective online learning and assessment of the students.

The digital learning environment at Galgotias is absolutely state of the Art with Latest online tools, softwares and learning management systems for not only online teaching but online assessments and examination are being used by Galgotias which are taking their students much ahead of others by embracing technology.

Suneel Galgotia
Chancellor **Galgotias University**

Galgotias students have an edge during the COVID crisis as they are exposed to more than 15000+ online lectures, 9200 E-learning resources, 3000+ virtual classroom instances, 4000+ online assignments, 1000+ Virtual videos and more than 500+ virtual programming Labs. Galgotias university students have access to over 4000+ courses available on various Mooc platforms (for credit transfer) and students can enhance their learning skills by taking these online certification courses and programs. These courses make them skilled in areas which are required by the Industry in todays times.E-Resources such as NPTEL, SWAYAM,UDEMY, COURSERA,MITCourseware links are shared with all students to enhance their learning. The Mobile Application at Galgotias university is dynamic and design to assist students in every way possible.The mobile app at Galgotias not only allows students to plan their lectures but also keeps them informed of all seminars,activities and events.The app keeps the students informed and updated on their attendances,results,course handouts provided by faculty and many other enhanced features that are being constantly developed and upgraded.

At Galgotias University, post the Covid19 lockdown in India, the faculty at Galgotias continued and sustained teaching by way of online classes,assignments and assessment tools and students forged ahead in online learning capabilities using technologies the university has implemented well ahead of its time. Online seminars and Masterclass by industry experts including Nobel laureates being done across courses and students are being exposed to the best experts in the industry and academic while sitting at home. The robust and dynamic learning management system at Galgotias university ensured zero academic loss and increased student engagement and enhanced learning during the COVID19 crisis.

" Galgotias university has been embracing new technologies since over a decade and our students have always been ahead in terms of learning and adapting to latest technologies aligned to Industry 4.0 which has resulted in outstanding placements for the university year on year" says **Dhruv Galgotia**, **CEO, Galgotias University** "

it witnesses amongst the highest enrolments among private universities in India and about 18,000 brilliant students across 100+ plus UG and PG programmes are experiencing quality education. Moreover, it serves as a home to more than 1000+ notable faculty members handpicked from top institutions not only in India but globally. Further, it extends help to meritorious students by providing them with scholarship opportunities.

Q ARE RESEARCH OPPORTUNITIES MORE BENEFICIAL IN INDIA OR IN ABROAD?

I believe that the research environment in India is getting stronger year on year. Accreditation and ranking agencies are giving substantial points to those universities who have a robust and dynamic research culture.There is immense potential within India for research and universities and colleges are now in the race for filing the highest patents or getting maximum scoops/sci index journals published by their faculties. The faculty of Galgotias university sourced from only the best universities and colleges from not only India but from the top universities of the world are empowered with a strong multidisciplinary knowledge base benchmarked as per global standards thereby accelerating the research environment within the university and also contributing to the growth of the nation.

With a focus on multidisciplinary research and education and a learning model that is calibrated to focus on active learning, Galgotias University aspires to be globally known for innovation and research at the intersection of disciplines.

Suneel Galgotia, Chancellor, Galgotias University believes that NBA accreditation plays a vital role in facilitating constant quality improvement in higher learning institutes. It will recognise the innovations and achievements of the university and helps knowing its strengths, weaknesses and opportunities.

He further describes the benefits and significance of NBA accreditation for Galgotias University saying – NBA accreditation will demonstrate accountability to the public or people and it will clearly indicate the commitment to excellence. The accreditation will give the university a new sense of direction and identity. ``

Training (NCERT), and the Department of Technical Education (DTE). There also are initiatives like e-PG Pathshala (e-content), SWAYAM (online courses for teachers), and NEAT (enhancing employability). Other online platforms aim to increase connectivity with institutions and accessibility to content. These are utilised for course materials and classes and the running of online modules. They include the National Project on Technology Enhanced Learning (NPTEL), National Knowledge Network (NKN), and National Academic Depository (NAD), among others.

Apart from online platforms, the most integral part is to train the faculty to use the online platform available, online method of teaching and taking students along so that the required learning process continues. The universities are working on the "Outcome Based Teaching-Learning Method" instead of focusing only on teaching. During Covid, few universities created their own LMS and one of the leading and innovative universities, i.e., NIIT University, has developed its own custom learning portal, which provides easy access for a complete online learning environment to students and faculty. The portal is also integrated with tools for conducting online video-based classes like Zoom and Microsoft Teams. Zoom sessions are automatically created for each class as per the timetable. Students and faculty can see their class schedule and enter online classes seamlessly from this portal using secure links. All Zoom classes are automatically recorded. Access to recorded lectures is made available to students so that they can use them for revisions. The portal also has functionality for faculty to upload and share any custom content with students. Discussion forums and other collaboration for group projects are also available on the portal for more effective learning.

This pandemic made universities more independent and self-sustainable.

FROM ASSESSMENT TO E-ASSESSMENT

Assessment is one of the essential and critical aspects of the academic cycle. Proper evaluation is necessary to understand the progress of students in terms of knowledge gained, conceptual understanding of subject or topic, as well as to take the feedback of the entire "Teaching Learning Outcome Process". The assessment process also helps students in self-analysis and to build their confidence level. An excellent assessment consists of continuous evaluation and feedback to all stakeholders. During the pandemic, universities are forced to shift from Assessment to E-Assessment as the traditional examination process where students were supposed to gather at the examination centre to write the exam is impossible during the Covid-19 outbreak. Universities need to identify and adopt new ways and means to conduct the examination process for both theory and practicals. Without conducting a secure online examination, the academic year would become meaningless and motivation for learning might get diminished for the students as well for the faculty members. The biggest challenge is to conduct online examinations where all students are sitting at home in a quarantine environment and we want to conduct the exam for those students. COEs (Controllers of Examination) of various universities expressed their need to conduct an online examination. With their inputs, here are details about how one can conduct an online examination with the help of technology and the same can be easily invigilated while sitting at a remote location.

- Students log into an online exam with a secure browser. It prevents the user from opening any other window during exam activity.
- Students complete self-authentication by showing the identity card provided by the university in front of the web camera and the system also captures the photograph of the student.

> "The digital learning environment at Galgotias is absolutely state of the art. Latest online tools, software and learning management systems for not only online teaching but online assessments and examination are being used by Galgotias, which is taking their students much ahead of others by embracing technology. Galgotias' students have an edge during the Covid crisis as they are exposed to more than 45,000 online lectures, 12,000-plus e-learning resources, 3,000-plus virtual classroom instances, 4,000-plus online assignments, 1,000-plus virtual videos and more than 500 virtual programming labs," **says Suneel Galgotia, Chancellor, Galgotias University.**

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- During the examination, the system tries to capture the photograph of the student appearing for the online exam and compares it with the existing database available within the system.

Imagine, if the student is uploading the photograph or the system is capturing the student's picture and that is compared to the existing identity card or identity associated with the student. The system will alert the proctor if there is a mismatch in the user attempting an online exam and the corresponding photograph of the student.

And, if that photograph matches the identity card or identity of the student, then the student will be allowed to appear for the online exam.

The system can also help you to identify and track if more than one person is sitting in front of the screen.

- Faculty, as a remote proctor, can easily monitor the entire remote examination activity where the entire live streaming associated with the exam activity will be recorded and it will be shown live.

- The remote proctor can also initiate a live chat with candidates attempting the online exam. There are additional facilities to terminate, pause, resume online exams of remote candidates.

- The remote proctor has full control of the examination activity; the proctor can also see student-screen activity. Audio and image proctoring helps to detect if a student is taking help from the external environment. Such an incident can be easily logged into the system with the use of technology.

> Q "Amrita Vishwa Vidyapeetham had embraced the online platforms a decade ago. This helped the Amrita fraternity adapt to this change during the lockdown. There are programmes offered with international universities as part of the international collaborations, where professors from universities abroad teach the subjects over the e-learning platform,"
>
> **says Mr. Maheshwara Chaitanya,**
> **Chairman (B.Tech Admissions)**
> **Regional Contest Director, ICPC Global**

The above-mentioned requirement will enable Universities to conduct online Examinations without compromising the quality of assessment.

Dr.T.R. Paarivendhar
Founder Chancellor
SRM Group of Institutions

Q Education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platforms, How is SRM University adapting to these changes?

The corona virus pandemic has generated changes in the teaching-learning process in higher education institutions and has influenced the interaction between teachers and students. As a consequence we were constrained to carrying out all the activities with students exclusively online.

In this regard, we took all the measures in order to avoid spreading the virus and to ensure the continuity of the educational process by switching to various E-learning platforms. And in order to improve interaction with students we established various asynchronous and synchronous tools such as e-mail, forums, chats, videoconferences.

Furthermore, we incorporated the technologies that facilitated the distribution of content at the same time, to a large number of students and offered many advantages to students such as control over the content, control over the time spent learning, and thus the process can be adapted according to the students' needs and objectives of learning. This contributed to better communication with the students and enhanced the learning process for students.

Q What advice will you give to young aspiring students while choosing right institution for their bright career?

Choosing a right institution is a make-or-break point in a student's career. While the first step is for the student to understand in which field he/she is interested in taking up the career , the next and the most important step is choosing the right institution. This can be facilitated by doing an extensive research of the institutions which offer that particular course. This would include analyzing the overall rankings and ratings of the institution, reviews of the alumni, the faculty association and the infrastructure provided by the institution.

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> Q "Technological advances, along with the vision of the management, made the transition from physical classroom sessions to online platforms seamless even during the lockdown. The first task was to train the faculty to ensure that the online tools are utilised efficiently and effectively. In addition to all these, we opened the window for the students to complete online courses in the Coursera platform," **says Dr. Anand Jacob Verghese, Pro Chancellor Hindustan Institute of Technology and Science**

GETTING THE RIGHT PLACEMENT

The placement activity took almost a 360-degree change during the pandemic. The following options are available for the students:

1. Joining corporates
2. Joining higher education institutes for further education
3. Starting own venture/start-up

Universities used technology, starting from building the profile of students, promoting the same on social media, website, screening of resumes, technical test and various rounds of interviews. Universities also conducted various online webinars and workshops with the help of resources from different corporate domains like HR, sales and marketing, finance, IT, etc. This helped both students and corporates understand and take the right decision for the next step.

Universities adopted the following practices that will help students get a good placement:

- Remote interviews can be done over phone or video calls. Either way, before the interview make sure you have picked an interference-free spot. If the interview will be held over Skype or Zoom call, ensure that the spot you pick looks professional to make the right impression.
- Some of the interview preparations will remain unchanged. For example, you should do your research about the company and the role. It's also a good idea to have a printout or a handwritten version of your resume handy.

Mr. Maheshwara Chaitanya
Chairman (B.Tech Admissions)
Regional Contest Director, ICPC Global

Q Education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platforms, how your institution adapting to these changes.

Pandemic has already proved that we all are problem solvers. Teachers, principals, academic counsellors have adapted the transition towards the digitisation & teaching over online platforms. Amrita Vishwa Vidyapeetham had embraced the online platforms much before, a decade. This helped Amrita fraternity to adapt towards this change during the lockdown. There are programmes offered along with international universities as part of the international collaborations where the professors from the universities abroad teach the subjects over e-Learning platform. Most of the courses offered can be taught online, but the questions and the assessments needs to be planned well. All the semester courses were delivered in online mode throughout the semester during the pandemic. With the UGC recommendation to have 40% of courses online as part of the degree, it is always better to look forward to teach and learn in online mode. All the practicals will have to be done only at the campus, after the classes are delivered online.

Q What advice will you give to young aspiring students while choosing right institution for their bright career.

Students are advised to use the internet and online resources effectively to do research on their programmes of interest. They have to first understand the subjects offered in the programme, explore the curriculum and see if they can manage the subjects during the course. Secondly, they shall depend on the rankings by NIRF to get details on the best ranked college/university in the subject they prefer to pursue higher education. Important points to be noted while choosing the right college:

- Ranking in the country
- Academics & Curriculum
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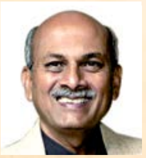

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- National Accreditation Board for Testing and Calibration Laboratories
- The Strategic Initiative for Developing Capacity in Ethical Review
- Forum for Ethical Review committees in Asia and the Western Pacific Region

- It's also important to have access to a good webcam and microphone for the online interview. You might want to test the equipment before you get on the call. Be ready and in position for the interview a few minutes before the designated time.
- Dressing up for the online interview will put you in the right mindset, so make the effort even if it's a phone or video interview. Pay attention to details like whether the device is charged, mute all notifications to avoid disturbance. You can put a sticky note under the webcam so you know exactly where to look and make eye contact with the interviewers.
- Work From Home (WFH) is the mantra in the new world. Your online interview is the perfect platform to showcase yourself as a candidate who is accessible and responsive. Show that you are someone who revels in taking initiative, is self-motivated, and can be efficient with minimal mentoring.

The first thing that comes to the mind of students/parents is the "PLACEMENT RECORD" as it plays a critical role in deciding the college/university for higher studies. Students do a lot of research online/offline about the placement credentials before taking the final decision. During the pandemic, universities that are strongly connected with the industry did very well in placing their students.

The following points should be considered by students/parents to decide about college/university to pursue their dream programme:

1. ***Management behind the institution***
2. ***Faculty profile***
3. ***Industry connect status***
4. ***Infrastructure***
5. ***Peer group/campus life***
6. ***Internship/live project opportunities***
7. ***Placement record***

Dr. S N Sridhara
Vice Chancellor, Hindustan Institute of Technology and Science

Q Education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platforms, how your institution adapting to these changes.

Teaching & learning process is dramatically changing with the introduction of e-learning platforms, even in the colleges and universities. It has certainly boosted the scope to learn courses in the online mode. HITS had implemented online teaching well in advance, even before the lockdown. Visionaries in the HITS management made this possible without any compromise on quality of delivery. We were able to reach the students remotely, enabling them to learn, even when they were not able to present physically in classes. Technological advances along with the vision of the management made the transition from the physical classroom sessions to online platforms seamless even during the lockdown. The first task was to train the faculties to ensure that the online tools are utilised efficiently and effectively. In addition to all these, we opened the window for the students to complete online courses in the Courseera platform. Even faculty members were encouraged to pursue certification courses in Coursera. This was offered free of cost by the HITS management to supplement the learning during the lockdown period. Experts say that the blended type of teaching and learning might continue post pandemic. To keep the students ready for the placement interviews and assessments, the university also started training the students virtually. It is important to note at this juncture that, our university has been recognised by International Book of Records for delivering the highest number of online courses during the lockdown period, with 4359 participants successfully completing the course. This whole effort by the HITS Management & faculty will make sure that the students can work in any challenging environments with the help of technology.

Q What advice will you give to young aspiring students while choosing right institution for their bright career.

First and foremost factor in choosing an institution for a bright career is to look into the courses and curriculum. Opportunities offered by the institute after the course completion has great importance.

Institutions offering courses relevant to the current industry requirements with emphasis on employability and entrepreneurship shall be given priority. This alone can help in securing a job after the successful completion of any programme. If we look from the current context, students are also required to assess the infrastructure of the institution. Students shall choose an institution having infrastructure and faculty to deliver courses online. Collaboration with the online course platforms like Edex, Coursera etc. are added advantages. In the coming years, experiential learning will play a vital role in education and career. While choosing an institution, students and parents advised to look the curriculum comprising experiential learning.

LEISURE

K-DRAMA: THE BOLDER AND THE BEAUTIFUL PG 68

SATYAJIT RAY: MAKING THE ORDINARY MAGNIFICENT PG 72

OLYMPICS: TOKYO TRIAL PG 70

Q&A WITH KONKONA SENSHARMA PG 74

Judging by the response of Italian critics to her work in Italian, **Jhumpa Lahiri** has made herself into an estimable Italian-language novelist

BOOKS

PAST THE LANGUAGE BARRIER

Jhumpa Lahiri's English translation of her first Italian novel is unlike the earlier books she has written

VITTORIO ZUNINO CELOTTO/GETTY IMAGES

JHUMPA LAHIRI
WINNER of THE 2000 PULITZER PRIZE FOR FICTION
Whereabouts
A NOVEL

WHEREABOUTS
by Jhumpa Lahiri
PENGUIN HAMISH HAMILTON
₹499; 176 pages

Jhumpa Lahiri, in the introduction to *Ties*, her award-winning translation of Domenico Starnone's ironic, wry yet emotionally fraught novel *Lacci*, notes a particular passage that "stopped me in my tracks". A passage that "lays bare the flawed human impulse to endure.... The disquieting message of *Ties* is not so much that life is fleeting, that we are alone in this world, that we hurt one another, that we grow old and forget, but that none of this can be captured, not even by means of literature". Not that such knowledge stops writers from trying to express the inexpressible on the page, from trying to give form to the unruly spill of our lives.

"Contained" is a word often used to describe Lahiri's style, her characters trapped in a doomed effort to exert emotional control, to keep wildness at bay. In Italian—the language in which she has written her last three books, including her 2018 debut novel *Dove Mi Trovo*, which she has translated herself as *Whereabouts*, available in bookshops later this month, or at least whenever it's safe for us to return to bookshops—she is even more contained, spare, her self-admittedly limited range (in comparison to her English) perhaps necessarily making her gnomic, aphoristic.

But that is probably unfair, to suggest her style in Italian is a result of her limitations rather than her literary skill. From the response of Italian critics to her work in Italian, Lahiri has made herself into an estimable Italian-language novelist; like Conrad and Nabokov, say, she has managed the extraordinary feat of becoming a writer in a learned tongue. Her first effort, *In Other Words*, non-fiction translated by Ann Goldstein, who has translated such Italian writers as Elena Ferrante, Primo Levi and Giacomo Leopardi, did seem hampered by lack of facility. But *Whereabouts*, perhaps because she has translated it herself, is an accomplished effort, a novella-length piece of fiction that reads like a contemporary European novel and not much like Lahiri's English-language stories and novels.

There are some parallels. Lahiri's solitary, unnamed protagonist, a middle-aged woman who lives in a central neighbourhood in an unnamed (albeit Rome-like) city, could have been Gauri from *The Lowland*, in terms of temperament rather than the tragic circumstances that lead to the latter marrying the brother of her Naxal husband, murdered by the state, moving to America and later abandoning her child. Both women shared a desire to be alone, to not be encumbered by other people, encumbered as they are by ghosts. In Gauri's case, it is her slain husband; for the protagonist of *Whereabouts*, it is her father, who died when she was 15.

Divided into some 46 chapters, or sections, each of which is a sketch that barely exceeds a couple of pages, five at most, *Whereabouts* takes us through a year of existential crisis for its narrator. An academic, the woman circles her city through the seasons, watching its people, making desultory observations, recalling her circumscribed upbringing with an often irascible father and depressed mother. "How can I link myself to another person," she thinks on a visit to her father's grave, "when I'm still struggling, even after your death, to eliminate the distance between you and my mother". They f*** you up, your mum and dad, as Philip Larkin observed in 'This Be the Verse'.

DIVIDED INTO 46 CHAPTERS, LAHIRI'S *WHEREABOUTS* TAKES US THROUGH A YEAR OF EXISTENTIAL CRISIS FOR ITS NARRATOR

Hobbled by a childhood lacking in love, Lahiri's protagonist has nonetheless built a materially comfortable life, ensconced in book-lined rooms, a white sofa in her living room so pristine that when an old friend visits with her small daughter and pompous husband and the little girl draws "a thin errant line on...the back of the couch", it is "like a long strand of hair, innocuous, intolerable". Unable to erase the line or forget it, she admits, "I read on the armchair now." In Spring, Lahiri's protagonist says simply, "I suffer."

Suffering is her trade, arguably even more so than solitude which "[a]s it requires a certain discipline, it's a condition I try to perfect." Though, as she acknowledges, "it plagues me... weighs on me". Her crisis, she fears, is that she will become her mother—brooding and moving inexorably and alone, even her anger exhausted, towards death. Alone (but of course) at a friend's country house on a short break, Lahiri's protagonist comes across a decapitated mouse. It is the peak of her crisis, as with the protagonist of Clarice Lispector's masterpiece *The Passion According to G.H.* who contemplates the mortality of a dead cockroach in her maid's spartan room. G.H. looks "with deep disgust, at the yellowed white mass on top of the cockroach's grayness" and concludes that "redemption... would be my putting into my own mouth the white paste".

Lahiri and her protagonist are too squeamish to attempt to connect in such a way with life's primordial ooze, its essence. Instead, she imagines "that poor decapitated mouse" as a "fig in high summer: the flavour of its red flesh, the warmth in my mouth". For Lahiri's protagonist, her potential redemption is more prosaic, a decision to leave the city in which she had lived her entire life to take up a year-long fellowship elsewhere.

Refuge and joy can be found by crossing a border, into a new country or, as Lahiri has, in a new language. ■

–Shougat Dasgupta

BOOKS

THE SCALPELS ARE OUT

This novel about doctors competing against each other in a Karachi hospital is authentic but imperfect

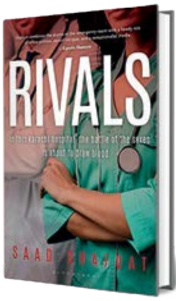
Rivals is the third book and second novel from the pen of Dr Saad Shafqat, professor of neurology at the Aga Khan Hospital and Medical School in Karachi. He started writing with pieces about cricket and is the proud author of Javed Miandad's autobiography (*Cutting Edge*) as well as a previous medical thriller (*Breath of Death*). This book is set in the same "Avicenna University Hospital" (based on the author's actual place of work) as his first novel, but the main protagonist in this one is not terrorists or terrorist hunters but doctors competing for a prestigious department chairmanship.

The book opens with Dr Tanya Shah at her morning constitutional, and the author is clearly familiar with the world of Karachi's rich and famous. As she puts on her Maria.B lawn suit and grabs her Louis Vuitton bucket bag and heads out to work, every detail is lovingly described. Meanwhile, another character is also at his morning constitutional, shaving his pubes and underarms so that he can be in a state of ritual purity when he meets his 72 virgins. Yes, there is a suicide bombing in chapter 2, but while it will play a bit of a role in the drama that unfolds later, this is not really a book about Islamist terrorists or their victims. It is a book about Dr Shah and her colleague Dr Hammad Khan, professor of ophthalmology and her rival in the race to become Avicenna's next chief of surgery. Dr Hammad plots sexual escapades with medical reps and underhanded manoeuvres to undermine Dr Shah's candidacy with his hangers-on as he sips cocktails at an elite club, while a "white tiger"-type ambulance driver and a bomb victim's poor mother add some working-class spice to the mix. There is also a lot of medical excitement (operating room, trauma surgery) that is interesting.

DR SAAD SHAFQAT'S novel does not rely on either poverty porn or jihad-mongering for cheap thrills

The book is generally well-written and is a fun and easy read, but the characters are not fully developed and promising detours frequently fade out without getting anywhere genuinely exciting. Still, it is set in Karachi and anyone with any connection to the medical world will find many familiar sights and sounds and depictions to keep them interested. And while there is a suicide bombing and some run-ins with poor people, the book cannot be accused of relying on either poverty porn or jihad-mongering for cheap thrills. Instead, Dr Shafqat stays mostly in the world he knows well and avoids any temptation to crudely take notice of how westernised and "un-Islamic" it is. These doctors are worrying about publications, presentations, trainees, committee meetings, departmental politics and sexual scandals, and their stories hold no grand lessons and attempt to correct no terrible historical crimes. That at least is refreshing. Overall, a fun read, but one is left with the feeling that it could have been better. ■

–Omar Ali



RIVALS
By Dr Saad Shafqat
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The Bolder and the Beautiful

Actors in **K-dramas** can be impossibly pretty, but the secret to their global success is their smart storytelling

M

Mainland India should have been the last place where South Korean entertainment would find fans. Ours is a country with its own thriving television and film industries. Culturally, we have been fascinated by the West, rather than our Asian neighbours. Our audiences are not known for embracing subtitles and are so parochial that no actress from Northeast India was considered for the role of champion Manipuri boxer Mary Kom in the mainstream Bollywood film based on her life.

Yet, according to Netflix India, in 2020, there was a 370 per cent growth in the Indian viewership of Korean television serials, fondly

known as K-dramas. While Korean entertainment has had a loyal following in Northeast India for about a decade, the rest of India woke up to it last year. So what is it about this genre that has convinced Indians to turn away from the macho men of *desi* entertainment and towards the feisty heroines and impossibly pretty heroes of K-drama?

The key to the popularity of K-dramas lies in the storytelling. Determined to woo the female audience in Korea, its television industry has actively hired women writers. In 2019, *Forbes* reported that almost 90 per cent of K-drama writers were women. From zombie historical dramas to crime procedurals and romances, women are writing it all. Consequently, strong female characters, sensitive male characters who support powerful women, and a minimum of two swoon-worthy male leads per show are the norm in K-drama. The tactic is simple and effective: come for the pretty faces, stay for the storytelling.

While remaining focused on audience ratings and commercial success—after all, these shows are primetime television programming in South Korea—K-dramas are often both ambitious and idealistic. Along with high jinks, melodrama and product placements for everything from Samsung flip phones to Kopiko candy, subtle social commentary is also woven into the plots. Super-rich families are invariably dysfunctional while the middle-class home with working parents and modest earnings is shown as the ideal. Big businesses tend to be the hub of all villainy. Creative professions, like authors and artists, are glorified and just when you least expect it, the dialogue will casually sneak in a reference to Adam Smith, Slavoj Žižek or Martin Heidegger.

Twenty years ago, the show *Coffee Prince* explored gender and sexuality when it set up a romance between an entrepreneur and his apparently-male-but-actually-a-woman employee. *Crash Landing On You*, one of the most successful K-dramas of all time, presented a cross-border romance that didn't reduce the North Koreans to evil caricatures. Shows like *Stranger* and *Vincenzo* examine corruption by those in positions of power, particularly in the legal system.

Writing (and directing K-drama) is an epic assignment, beset with challenges. Each show is 16-20 episodes long and the duration of each is at least 60 minutes. Scripts must follow the strict guidelines laid down by Korea Communication Standards Commission (KCSC), thanks to which K-drama romances seem practically Victorian in sensibility. Shows can take anywhere from eight to 14 episodes to build up to a single kiss, and sex scenes are about as rare as pandas copulating in captivity. Yet fans will tell you that the conversation-heavy slow burn of K-drama romances feels more satisfying than the most graphic scene. Plus, there's the added bonus of not needing to worry about either your dad or domestic help barging in while you are watching a love scene.

In February, Netflix announced it would spend nearly $500 million (around Rs 3,746 crore) on films and television shows produced in South Korea. That's good news for the Korean entertainment industry and perhaps it will be a wake-up call for the Indian entertainment scene. Considering the average quality of Hindi programming on streaming platforms, our writers and directors could take a few storytelling tips from K-dramas. ■

—Deepanjana Pal

A SLOW BURN (top to bottom) Stills from *Stranger; Vincenzo; Crash Landing on You*; and *Coffee Prince*

THE NETFLIX STARTER KIT

ARE YOU FEELING READY TO PLUNGE INTO THE RABBIT HOLE THAT IS K-DRAMA? PICK A STEPPING STONE DEPENDING ON YOUR FAVOURITE GENRE

CRIME

Stranger

A prosecutor and a detective team up to investigate a murder only to unearth more sinister secrets. The show has two seasons, which are not closely connected by plot but feature the same characters

SLICE OF LIFE

Reply 1988

Set in a street in Seoul in the year 1988, the show follows five families, focusing on the five teenagers who have been friends since they were kids. This is nostalgia for the 1980s at its sweetest

ROMANCE

Crash Landing on You

This ovary-busting romance—hello Hyun Bin—between a South Korean businesswoman and a North Korean soldier is the cross-border romance Bollywood should have given us in an Indo-Pak setting, but failed to do

BOSS LADY

Hotel del Luna

Singer-actor IU, as the undead owner of a hotel for the dead, makes this show a must-watch. If you have read Martin Heidegger's *Being and Time*, you might appreciate this show more. Seriously

HISTORICAL FUSION

Kingdom

Technically, zombies have no business popping up in a drama set in 16th century Korea, but you will be too busy following Crown Prince Lee Chang to mull this detail. Part horror, part political conspiracy, the show is fully fabulous

TOKYO TRIAL

IN ORDER TO PREPARE FOR THE OLYMPICS THIS YEAR, INDIAN ATHLETES ARE OVERCOMING EXTRAORDINARY OBSTACLES

KEEPING THEIR GAME FACE ON
(clockwise from left) Paddler G. Sathiyan; shuttler B. Sai Praneeth; archer Deepika Kumari; and boxer Amit Panghal (in blue)

When the nationwide lockdown was announced last year, Deepika Kumari found herself stranded at her fiancé (now husband) Atanu Das's home in Kolkata. The two archers had qualified for the Tokyo Olympics, but found their preparations had ground to an abrupt halt. For a few days, they tried yoga and indoor exercises. Deepika kept busy shooting at a target three metres away. She even attempted running on the rooftop, but stopped after suffering a back injury.

Down in Chennai, paddler G. Sathiyan decided to follow a regime designed by strength and conditioning coach Ramji Srinivasan. He used water bottles, chairs and school bags to maintain fitness levels. Soon after, the lockdown was lifted and the athletes were back to the grind. But going by the past few months of training and competition, it is clear that these Olympics are likely to unfold under the most extraordinary circumstances.

After months of waiting, when Amit Panghal finally hit the ring, he was desperate to compete in international competitions. He won gold in France and another at the Cologne World Cup, before settling for bronze at the Governor's Cup in the last week of April. Around him, other members of the boxing contingent tested Covid positive time and again. "Mentally, boxing is so tough that I just take it as it comes. So, not a lot has changed for me. I have kept doing the same things in training, though we now strictly follow health and safety guidelines," Panghal says.

Training without a partner affected shuttler B. Sai Praneeth's preparation last year. Things didn't get any better once competition resumed, with a number of tournaments either cancelled or rescheduled, including the India Open that was earlier scheduled for May. "It's frustrating to get into tournament mode and

ALONGSIDE PHYSICAL ABILITIES, INDIAN ATHLETES ARE EQUALLY FOCUSED ON BUILDING THEIR MENTAL STRENGTH

Top of Their Game

Athletes likely to make a podium finish

Bajrang Punia

The first India wrestler to win three medals at the World Championships, Bajrang Punia returned to competition with a bang, bagging gold at the Matteo Pellicone Ranking Series in Rome. He is one of the top contenders in the 65 kg freestyle category.

Manu Bhaker

At the World Cup in March, shooter Manu Bhaker picked up a gold, silver and bronze each in the Olympic events, while picking up five medals overall. At 19, she could be India's youngest medal winner at the Olympics.

a competitive mindset, only to find out it isn't happening. But as athletes, we are privileged, others have been hit worse," he says.

After playing the Yonex Thailand Open in January, he was scheduled to play the Toyota Thailand Open a few days later. However, he had to withdraw and return home after testing positive. "It was unfortunate. I have put it behind me now and want to focus on the three tournaments coming up to be in a strong position to qualify," Sai Praneeth says. The shuttler is also working on his mental readiness. With no chance of any Indian supporters in the stands, since no overseas spectators are allowed this year, he thinks it will be key.

The archery contingent has gone through the two rounds of vaccination, which comes as a relief for Das. At camp in Pune, Deepika slowly adjusted to training in a mask in the summer heat. And the results have shown. At the season's first competition, the World Cup in Guatemala City, the Indian contingent clinched four medals, with Deepika picking up a gold each in the individual and team events. "I'm in desperate need of tournaments and there just aren't enough before the Olympics. It's best to accept the situation and prepare," says Deepika. ■

–Shail Desai

Sakhom Mirabai Chanu

Injuries have hampered Sakhom Mirabai Chanu's progress, but after a rehabilitation and training stint in the US, she now hopes to make her mark at the Olympics. With North Korea's withdrawal, Chanu is now the second-best lifter in the 49 kg category.

WIND IN HER SAILS

Last month, at the Mussanah Open Championship in Oman, **Nethra Kumanan** missed gold in the Laser Radial Class by a point, but along the way, she created history by becoming the first Indian female sailor to qualify for the Olympics. Only 23, Kumanan seems to have a wise head on her shoulders.

Q. How did you manage fitness during the lockdown? We set up video calls with our coach [Tamas Eszes] and did fitness sessions twice a day–one on the bike and the other in an indoor gym at home.

Q. How important is the mental aspect of sailing? How have you been working on it? Sailing is about being aware of your environment–the wind, the weather–and the other boats. There is constant decision-making involved. If you don't have the right attitude and the right focus at each moment, you will make the wrong decisions or not make decisions at all. I have been working with a psychologist from Israel to build self-confidence. It has made a huge difference in being consistent. That's how I was able to qualify before the medal race.

Q. What does it mean to go to the Olympics? It will bring attention to the sport. Hopefully, more people will take it up. Going to the Olympics is a dream come true and it's one more step towards achieving a medal. We will start aiming for a medal at Paris 2024.

Q. What do you do when you need time off from sailing? Under normal circumstances, I would come home from Spain or travel. This year, we went on bike trips, watched sunsets or just hung out and did fun things. Even studying would help me take my mind off sailing. ■

–with Shail Desai

Making The Ordinary Magnificent

Satyajit Ray would have turned 100 on May 2. Celebrating the master's birth centenary, filmmaker **Shoojit Sircar** explains why he will always be Ray's apprentice

MILIND SHELTE

Ray, for me, is a mythical being and that mythical quality reflects in his films. I discovered him quite late in life and am still understanding him. It was his *Pather Panchali* (1955) which changed my life and made me fall in love with cinema. The first time I tried watching it, I was in Class 5. My father had taken me to a theatre in Ichapur in 24 Parganas. I slept through it. During my second attempt, in Delhi, I, like my classmates, left the screening midway. Back then my passion lay more in sports. It was, finally, at my third attempt that I watched the film. That was at Siri Fort. I was howling by the end, especially when Durga died. I went home dazed, wondering how a film could be so simple yet magical.

The West has always spoken of how there is realism and also poetry in his cinema. I think that the poetry stems from his spirituality—his following of the Brahmo Samaj, his understanding of Tagore and the Bengal renaissance. That spirituality seeps into the music and camerawork, too. When the camera closes in, you don't just see beauty but also a great understanding of life. There are wide shots which are again beautiful. The spirituality he brings to his cinema is what makes him a guru.

Ray understood the mystery in the atmosphere, both visually and aurally—in black and white, he was able to get the subtle differences between dawn and dusk, the sunlight in spring to the one in autumn, the grey humid stillness, the light after the first rain shower. I vividly remember the last shot in *Apur Sansar* (1959), when Apu and his son, who doesn't know that Apu is his father, walk away. It just tore me apart. Such moments have stayed with me and I always wanted to recreate a similar emotion in my films. I attempted to do so with *October* (2018). *Gulabo Sitabo* (2020) also owes a huge debt to Ray.

> 'I think the poetry in Satyajit Ray's cinema stems from his sense of spirituality'

When I revisited Ray's work during the lockdown, I was reminded that his films also have a strong political voice. In *Charulata* (1964), Bhupati (Shailen Mukherjee) and Soumitra Chatterjee's

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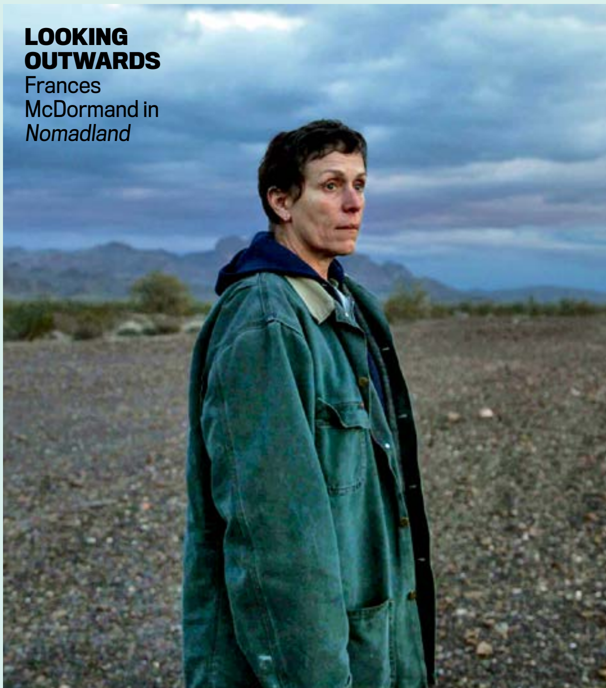
CINEMA

BOTH HOME AND AWAY

Winner of this year's Best Picture Oscar, *Nomadland* tells the story of a woman who finds stability while being adrift



LOOKING OUTWARDS
Frances McDormand in *Nomadland*

Some of the most stimulating moments in film history have occurred at a point where documentary and constructed narrative intersect or blur into each other. Nearly a 100 years ago, Robert Flaherty's *Nanook of the North*—about the Inuit people of the Canadian Arctic—introduced viewers to a world they knew little about; but doing this entailed a certain degree of artifice and use of scripted scenes. A century on, Chloé Zhao's *Nomadland*, which won best picture, best director and best actress at the Oscars this week, also melds reality with a fictional narrative while chronicling lives outside the mainstream: in this case, the van-dwelling "nomads" of modern-day America who live on the road and form communities and

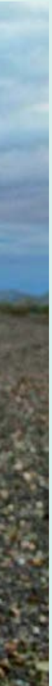
RAGHU RAI

A LEGEND **Satyajit Ray (left); stills from (clockwise from top) *Charulata*; *Pather Panchali*; and *Apur Sansar*; and (extreme left) Shoojit Sircar**

Amal keep talking about politics, be it left, right or centre. This is why Ray's cinema is so relevant, not only in India but across the world. It is almost like he predicted the political turmoil we are seeing now.

I have watched pretty much all of his works, including his documentaries. Some were sent to me from his office by his son, Sandip. Ray created a path for us filmmakers to take cinematic brilliance forward and showed that one needs very little to do so. His films spoke of small moments, of real-life situations so beautifully. I tell my associates and friends, those who are in creative pursuits, to look at how Ray made the ordinary so magnificent. ■

–As told to Suhani Singh



camps to help each other.

Some scenes here could easily have come out of a straight documentary, including the appearances by real people—such as Bob Wells, president of the Homes on Wheels Alliance—speaking as if being interviewed for the camera. Yet, in adapting its script from a non-fiction book by Jessica Bruder, *Nomadland* organises itself around an invented character. After losing her job during the Great Recession, the recently widowed Fern (played by Frances McDormand, her face a study in both desolation and hope) hits the outdoors with her van and gradually finds a series of support systems. In the process, through her eyes, we learn about this vital culture and way of life.

So here is a professional actress playing a scripted character and interacting with real nomads who are playing themselves—or rather, versions of themselves. (One person, Swankie, is shown as dying of cancer in the film though she is still alive in reality.) *Nomadland* has verisimilitude but also a cinematic sweep. On the whole, I admired it more than I felt emotionally touched by it. But in a few scenes, when a connect takes place, the effect is devastating: take the moment when a friend of Fern's, trying too hard to be helpful, accidentally breaks her plates and we see how shattered she is. One senses how much these physical belongings (which probably carry memories of her husband) mean to her, even though she is now letting go of possessions.

It feels strange, at a time when we are all being asked to stay indoors, to watch the unsheltered outside being presented as a character in itself. But this is a story about being adrift and tethered at once. Its opening and closing scenes may evoke John Ford's *The Searchers* (also about new, fluid definitions of 'home'), but *Nomadland* is essentially a one-of-its-kind film, heartfelt in its contrasting of Fern's chosen life with the more structured possibilities that might be available to her. ■

–Jai Arjun Singh

Nomadland, which won the Oscar for best picture, will stream on Disney+ Hotstar from April 30

THE BEST PART

Konkona Sensharma, in the headlines again for her performance in the Netflix anthology film, *Ajeeb Daastaans*, on the roles she finds most interesting to play

Q. *Ajeeb Daastaans' Geeli Pucchi* has been lauded for putting the perspective of a Dalit woman at the forefront, something not seen enough in mainstream cinema...
In mainstream culture, we normalise the dominant caste narrative. It is boring to see only one kind of person represented on screen. We all have so many identities. I am a woman, a mother, an actor, a Bengali, an Indian, an atheist. It is amazing that Neeraj Ghaywan and [co-writer] Sumit Saxena wrote a story presenting an intersection of caste, gender and sexuality.

Q. The short also generated plenty of conversation on social media. Is this indicative of the strength of the short format, do you think?
You can tell this story in any form, [but] you have to want to tell it. You should have the sensibility, the interest and the courage to do it. It is hard to tell them because of funding and visibility. We were lucky we had Dharma and Netflix to support us.

Q. Some, after seeing the short, have lamented that they don't see enough work from you. Is the industry not giving you good roles?
I could do with more. You have to ask the filmmakers. But I do get some interesting roles. I shot a film, *The Rapist*, with my mum [filmmaker Aparna Sen] and have done a series with Nikhil Advani called *Mumbai Diaries*.

Q. You have never shied away from calling a spade a spade. What are your feelings about the second wave of Covid?
I'm angry. There is no excuse for not being prepared. How can a politician hold election rallies amidst it? How can you allow the Kumbh Mela? It is criminal negligence. We don't need to go on about statues and temples. We need to work on improving our public healthcare system.

–with Suhani Singh

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